

Vol 3 No 6

A Gareth Powell Magazine

June 1986 \$3

The Australian COMMODORE REVIEW

Game Reviews:
Infiltrator,
Uridium,
Super Bowl,
Boulder
and more

Sneak Peek:
Michael Jackson
arcade thriller

The Great Battle of the Mice * Final Cartridge
*** Freeze Frame * Digidrum * Hidden 64**
Memory * Message Systems Update

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BEEMAN MAYRHOFFER STOTT/CC422

RAM RUMBLINGS

Teledata:

Low Cost Telex Alternative Acquired

Teledata, the pioneer private enterprise public access telecommunications service, has been acquired by a syndicate of Melbourne investors.

The company offers any business, which has a personal computer with a modem, access to an economic alternative to traditional telecommunications. The service gives business PC owners access to international and domestic telex as well as electronic mail capabilities for only \$5 a month - the home user cost is only \$2 a month.

David Frenkel, who is the new president of Teledata, said the alternative offered by his company was, "potentially a large cost saver for businesses of all sizes."

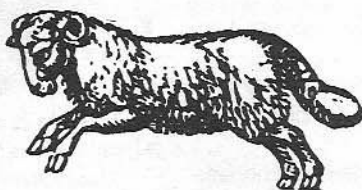
"You can really send and receive telexes and electronic mail from your PC with convenience and privacy," he said. Teledata provides access, via standard phone lines, from anywhere in Australia or overseas at rates far below STD/ISD connect charges.

Mr Frenkel said many "business executive clients have enjoyed the benefits of Teledata's alternative to the now dated dedicated telex equipment."

"A number of corporate executive clients use the system both here in Australia and wherever they travel in the world. They find it exceptionally friendly to use and the lowest cost most timely method of keeping in touch with all their business correspondence needs," Mr Frenkel said.

The Teledata Network boasts a membership of over 2500 subscribers. Mr Frenkel said Teledata membership already established it as an industry leader and it intended becoming the premier public dial-up access information and communications utility.

Teledata's membership is diverse, with subscribers from the business, education and home-hobbyist sectors. Mr Frenkel said Teledata has many capabilities which are not available on



other systems. He said the new owners planned to develop and extend the company's range of services with a significant injection of funds and added staff. Teledata provides full ASCII based dial-up services simultaneously at line speeds of 300/300 bps, 1200/1200 bps, and 1200/75 bps. By contrast, Viatel only provides 1200/75 bps facilities.

Teledata offers complete file transfer facilities with error checking to enable PC owners to move spreadsheets, word processor documents and other files from their own PC to any other PC in the world. It can provide large time and dollar savings involved in moving information within and between companies.

The company provides a unique service that activates the user's pager/beeper, (standard pager units) when an urgent telex or message has



arrived. This saves logging on to find if you have a telex, a common complaint with other dial-up services.

Teledata's system software was wholly developed in Australia and, according to Mr Frenkel, the development team at Teledata will continue to improve and develop the system in response to its customers' needs.

Teledata also offers "international and domestic gateways". This new concept in electronic publishing means that a consumer, or business, can use many other information and news services



CAN'T BACK UP YOUR LATEST TITLE?

Ultrabyte Nibbler V2.2, one of the worlds most powerful diskette copiers has just arrived at Benson computers. It is a completely new nibbler when compared to the original. V2.2 has been enhanced to copy over 100 of the latest titles available. It will copy almost anything that can be copied by a 1541, MSD, or Compatible.

When loaded, you are presented with the following menu:-

- 1) 1541 BACKUP (UNPROTECTED)
- 2) 1541 NIBBLER
- 3) 1541 NIBBLER (2 DRIVES)
- 4) MSD NIBBLER (DUAL DRIVE V2.3 ROM)
- 5) ARTS TRACK COPIER
- 6) ARTS CRACKER
- 7) MANUAL PARAMETERS
- 8) FILE COPIER
- 9) 1541 BACKUP (2 DRIVE UNPROTECTED)

The most powerful options on this disk are 2, 3, & 7 if you own a 1541 or compatible. If you own an MSD DUAL DRIVE then all you need is option 4. The other options are really only for disk house-keeping, ie. for backing-up standard disks and transferring files between disks. Options 5 & 6 are quite impressive, and make light work of those extra tough E.A. titles.

The single 1541 nibbler will backup a protected disk in just over two minutes, while the dual version will backup a protected disk in under 1 minute. Both nibblers give you a track range and increment option to account for those programs that may use tracks other than 1->35. However you will find that most programs stay within these standard confines.

Should your disk still require further work to get an exact copy, you can use the Manual Parameter program. It will copy extra information to the backup disk to get an exact copy of the original.

Ultrabyte V2.2 is available now from Benson Computers for a very reasonable sum of \$99 + P&P. So to end your Back-up Woes!, phone your order through on (008) 334 854.

Editorial

What a month, what a weekly, dum de dum.. ooops - didn't see you there. Well, now you're listening, here's some juicy news. As you have no doubt noticed, our Hot Stuff section has evolved from a one page passing idea into twelve pages of heart stopping action. (Well, we're still working on it.)

As a result, we - that is myself and our esteemed publisher, Gareth (about to celebrate his 39th birthday) Powell - have decided to produce a new magazine. Who said there was a massive economic slump in the computer industry?

It will be named *Games on your Computer*, and will be full of amazing, sock removing game reviews. The

difference will be that we will be talking about other brands of computers too...many of which I have either used, programmed or trodden on as I stumble out of my office. High score columns, game hints and tips, maps, solutions to adventures, help columns, reviews and many other subjects will be covered, including a few that even Gareth doesn't know about.

You can expect to see the fireworks on July 4th, so rush out to your newsagent and hope for the best.

Australian Commodore Review is still going to be here, with its own share of game reviews, news, tips, trivia, help columns, and interviews with lost Asian



Andrew Farrell

children. I hope you have enjoyed our publication to date, if not you will find a chance to voice your opinions further by filling the survey that is floating around in this month's issue. It is a loose insert in accordance with the requests of many readers after last year's survey. Until next month, happy computing and please don't ring me after 11.00 pm!

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your copy - take out a
subscription now!*

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the Future

RAM RUMBLINGS

(databases), without having to establish a new account and access method.

Teledata retails the information to its subscribers. The first such international gateway now available is the Official Airline Guide's Electronic Edition (OAGEE).

The OAG is a service that enables a subscriber to choose, without bias, the lowest cost airfare that meets his travel needs in terms of time, comfort and airline preference.

Its databanks, located in Chicago, contain up-to-date information on flight schedules and the latest choice of fares from 700 airlines around the world (updated on a daily basis), as well as the latest in special fares and discounts. According to Mr Frenkel, the OAG is extremely convenient and can save a "traveller very significant dollars and time".

Teledata offers clients more than domestic and international news and information services. Teledata is building an electronic shopping complex. Several shops are already installed selling goods for computers (books, furniture, software and equipment), general books, and art work.

Mr Frenkel said the shopping complex would be expanded in response to the growing needs of Teledata's subscribers. The company is negotiating with additional suppliers and service providers who wish to reach Teledata's subscribers and is actively inviting joint venture proposals.

Flippy Floppy

Nashua is re-introducing the 5 1/4" "Flippy" diskette to the Australian market.

The "Flippy" is a 5 1/4" diskette with an extra index hole and write protect notches cut into both edges of the jacket, so that the diskette can be accessed on both sides by single-headed drives. The benefit of the "Flippy" to the multitude of single sided drive users, is that they get greater value for money as they are not double the price of single sided diskettes.

Users have for years cut the extra notches and taken a chance of the "flip side" of the diskette being of good enough quality to be used on single sided systems. Nashua has eliminated any chance of the user doing a bad job, or of the second side being poor quality, by producing a pre-notched jacket with the diskette certified on both sides as double density.

This product is now being produced at Nashua's Australian diskette factory located in Sydney.

Enquiries should be made to the Nashua Discs office in capital cities in Australia and New Zealand.

Give your monitor a lift

Ever get the feeling your monitor has an inferiority complex? Are you always looking down on him? What you need to do is get a monitor stand from Cambridge Computer Plastics. Get your screen where it can be seen!

Yes, folks, don't put up with a messy desk either. Grab yourself a printer stand too, and tuck your printer paper neatly beneath your printer. They make a fine pair together.

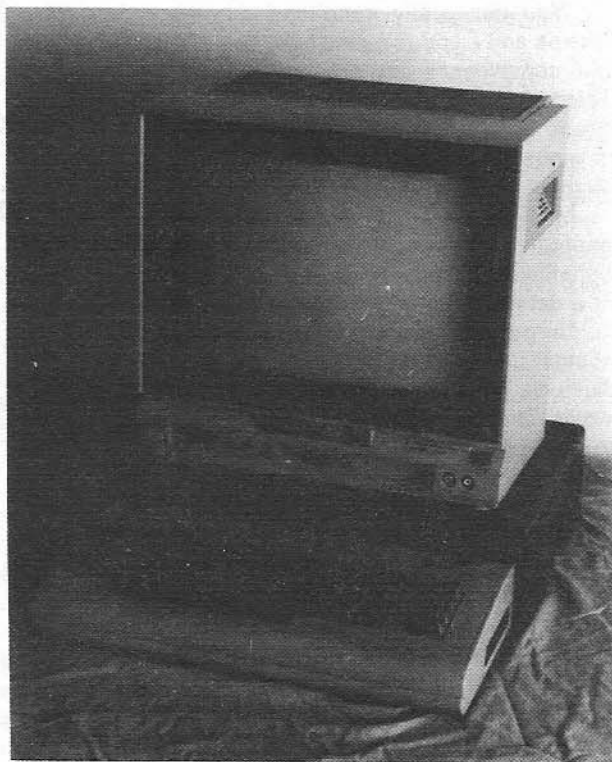
Both are made from tough, durable black perspex, with enough room on the monitor stand for a full 18" screen., and the keyboard can be slid away underneath when not in use. For the Commodore it's ideal.

The printer stand will fit up to 500 sheets of paper underneath, and seat an 80 column printer happily on top. A 132 column version is also available.

Both are priced at around \$37.00.

If you do much typing from other documents then you'll also find a document stand invaluable. Two models are available, one of which folds away for those space conscious offices such as that of *The Australian Commodore Review's* editor. There is an elastic band across the top to hold the paper upright. We tried out these stands and found them very useful.

For further information contact Terry Tull on (02) 747 1883 or (02) 799 8447.



Commodore 64 monitor on plastic monitor stand, with keyboard ready to use. Keyboard can be slid neatly away underneath when not in use.

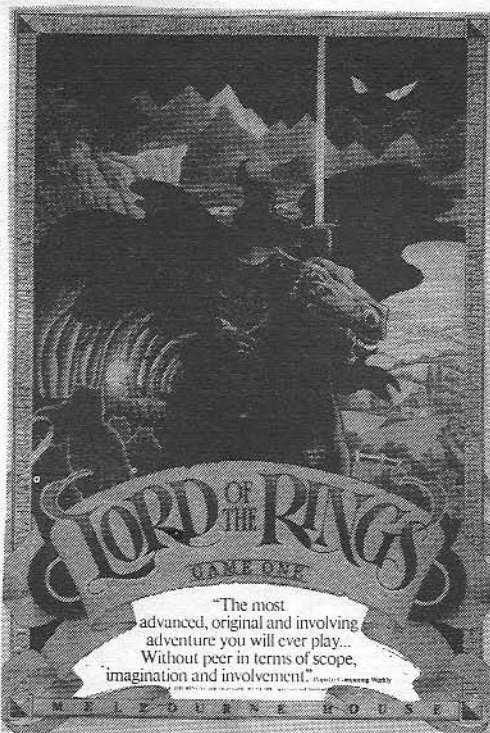
Lord of the Rings

Boasting an 800 word vocabulary and and over 200 different locations, Melbourne House looks set to have another winning graphic adventure on their hands. It is designed along the classic lines of *The Hobbit*, and will no doubt be popular amongst old fans of the famous novel *Lord of the Rings*.

Available on disk and cassette for around \$44.95, it offers the brand new facility of multi-player choice, providing the adventurer with many potential facets to explore as different characters in the game.

Full review of the package will appear in next month's *Australian Commodore Review*. Stay tuned for more developments.

Also watch out for *Electra-Glide*, yet another addition to the fray of car racing clones, yet with all the pizzazz of a fast action game. Rumour has it that there are some pretty amazing graphics and funky



music to bring the program amongst the league of top ten sellers. Also reviewed next month.

Interested in games?

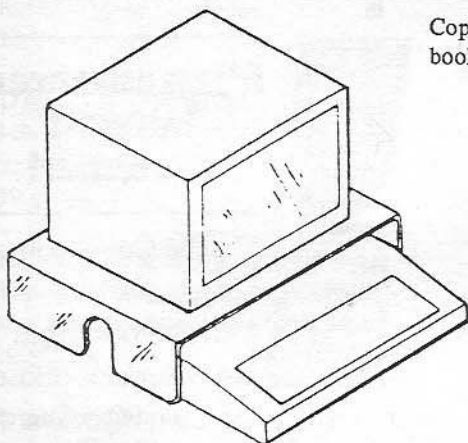
We've decided to produce a new magazine.

It will be called
GAMES on your computer

and will be full of amazing game reviews. And we will be talking about all brands of personal computers.

Look out for it in early July
And tell your friends!

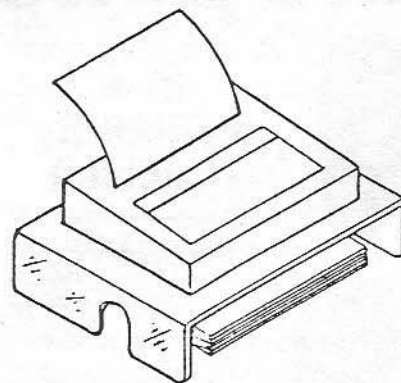
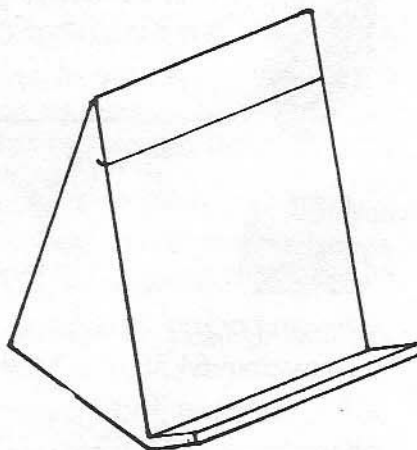
Commodore users take note!



Monitor stand - strong, durable black plastic, computer can slide in under stand

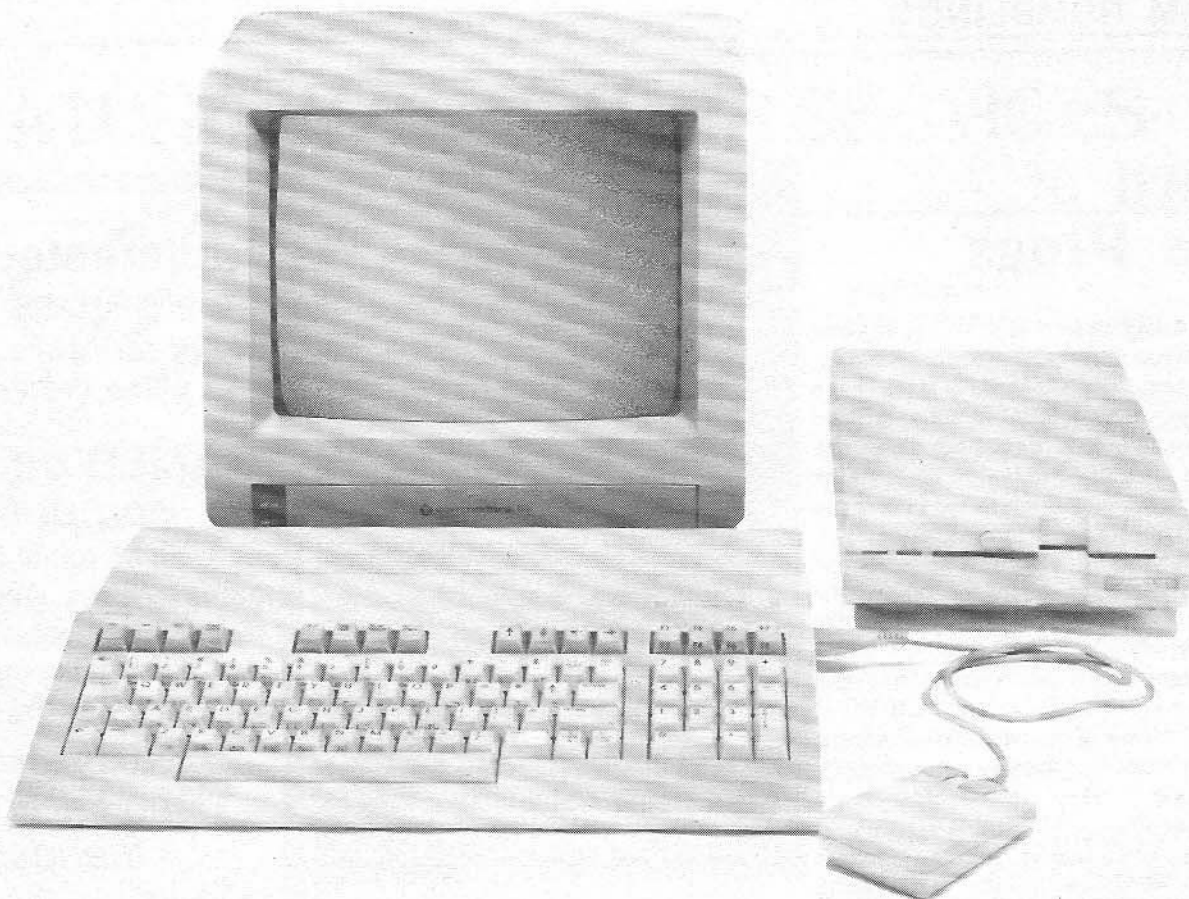
Monitor or printer stand: \$37 + \$2 p&p
Copy stand: \$12 + p&p

Copy stand - takes foolscap paper and opened books, elastic strap holds papers in place



Can be used as printer stand as well - suitable for most 80 column printers, room for over 500 sheets

Cambridge Computer Plastics
(02) 747 1883



The Commodore 128

...so powerful, it's 3 computers in 1



It's a productivity computer!



The Commodore 128 will amaze you with its new generation of powerful yet easy to use productivity software. Like 'Jane', which allows you to follow simple symbols instead of typing complicated commands. And because it's so easy to learn, you'll have the 128 working hard in minutes! You get 128K of RAM both 40 and 80 column displays, and 16 colours for graphics.



It's a family and education computer!



Switch to Commodore 64 mode and you can use more than 3,000 software packages proven on the Commodore 64, The World's No. 1 selling computer. That's power – power for studying, word processing, education, home accounts, programming, fun and games and much, much more.



It's an advanced business computer!



The Commodore 128 lets you use software packages like 'Wordstar, dBase II and Supercalc', all in 80 columns. The Commodore 128 gives you all the computing power most businesses will ever need now or in the future.

Power without the price. \$699.



Behind the Screens

INFILTRATOR

With J. Mark Hunter

Where do I begin? Let me just put it this way - I put Dire Straits: "Love Over Gold" on just as the game began, and "Telegraph Road" was already finished just as I finally figured out how to get the jet-copter off the ground and on its way into a mission of a lifetime.

Side Two - and I was in the air.

The game is as complex as any aircraft's instrument panel, and as dicey as any dogfight from World War II. You are a man on a mission - according to Whizbang Enterprises - the best in the world. You begin all your missions just beyond the border of "the Country." They don't tell you which country, but whoever they are they've got some heavy artillery and major security to deal with. For the man on his mission - Captain Johnny "Jimbo Baby" McGibbet - it's like taking cyanide for a headache. Yes, we're talking suicide hill - a flight from which no novice could ever hope to return. No, this is a job for a master ace, and Johnny "Jimbo Baby" McGibbet's is that particular mega-dude.

Slip inside his "bullet-proof designer jeans" for a while now, and catch the dynamic action of the Infiltrator's zany flight into computerized hell.

Home Base: Sitting pretty in the confines of the Infiltrator's Commando Base, a man and his super chopper, unscathed, psyched, and ready to hit the fan. You're briefed on the mission, suited, and well-wished away - they make it sound so permanent - so devastatingly terminal.

Upon entering the cockpit of your jet-copter, officially labelled: "Gizmo DHX-1 Attack Chopper", you will find yourself facing an ultra-sophisticated array of controls. An air-speed indicator showing Gizmo's speed in knots by digital display - maximum speed is 450 knots without turbo engaged, (activating the turbo doubles the speed).

The ADF or Automatic Direction Finder that, once programmed, immediately sets you on course towards your destination and target regardless of compass orientation. Especially good for super-heroes that forget their maps.

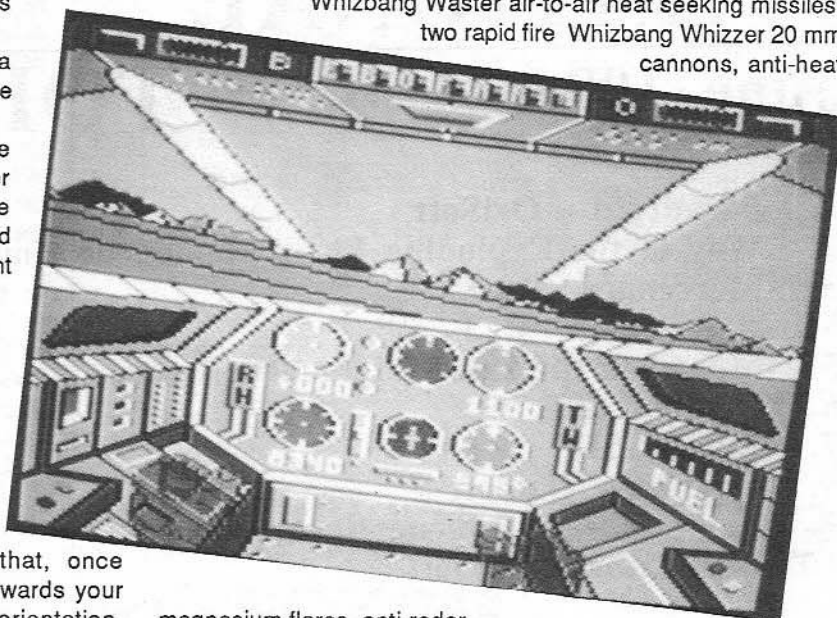
Standard instrumentation includes altimeter (with maximum altitude of 8,000 feet), RPM indicator for chopper blades, Artificial Horizon, which indicates your present altitude, degree of tilt or bank, and most importantly, whether you are climbing

or diving by the location of the horizon line in relation to the stabilization point.

Along with the directional compass, fuel gauge, oil and battery temperatures and engine warning lights, we find one other added piece that smears a taint of chilling edginess to the interior of the shadowed cockpit... pollution control!...no - the missile warning lights. Yes, space cadets, not the flashing strobes of your friendly neighborhood breathalyzer units, oh won't you wish - but the relentless glint of fury of flame and steel - a heat seeking missile streaking towards the Gizmo, or radar-guided it matters not - just the guarantee that if you don't get your butt out of there like fast, Jackson, you ain't going to have one at all!

But take heart - the bouncy little baby you have beneath your hands comes winter-stocked with enough defensive tricks to set up Gaddafi's next-of-kin for the ensuing couple of decades or one more U.S. air raid, whatever comes first. Check out the biting menu of artillery and shells - four

Whizbang Waster air-to-air heat seeking missiles, two rapid fire Whizbang Whizzer 20 mm cannons, anti-heat



magnesium flares, anti-radar guided missiles, chaff dispenser, and a montage of every conceivable state-of-the-art computer guidance, control and surveillance and communications systems. Then one other - a top secret hush-hush number we've been keeping silent about - the

Whizbang Whispers silent travel capacity, allowing you to cruise in undetected by anybody but the wind.

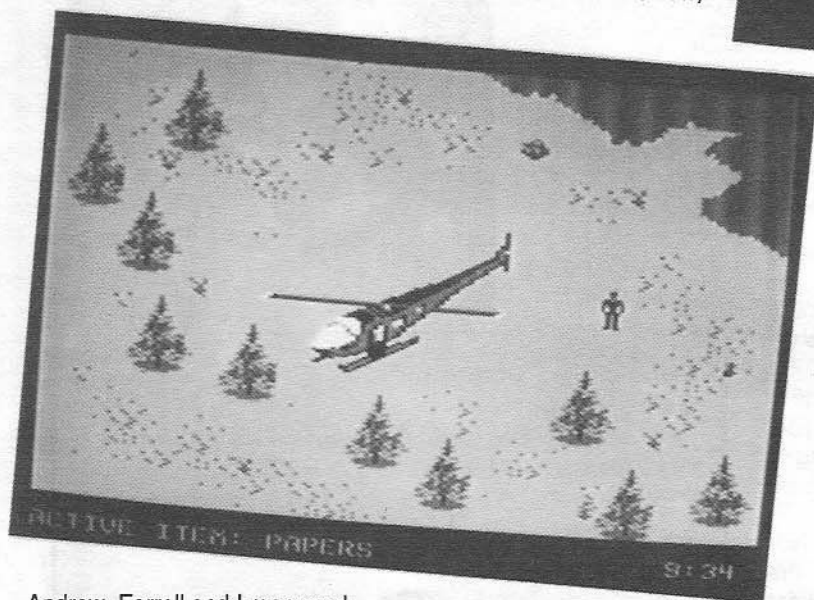
But the list goes on and on, mode after mode of smirk-inducing, confidence-building, sweat-easing gadgets that'll make the trip that much easier.

The ride begins.

"Hey, Farrell - change the tape would you - Yeah, better make it Don Maclean's "Miss American Pie" - could be a long flight."

Yes, let me just make a careful note of some more furrowed brow complications that crept up during my weighty day of play - the need, really, of a co-pilot. Of course, I realise, this is really a solo mission by "Jolly Jumbuck", or whatever his name is - but we've got to remember here that this guy is pro - he got here by a lot of experience - (stand in for TC in Magnum), so the job at hand for us as we freak out hysterically at the madness going on is really employment for three to four people, one to steer, one to read the flight manual, another to pop in the proper instructions - and a girl to pour the coffee (no sexism intended.)

However, short staffed as we are here at the *Australian Commodore Review*,



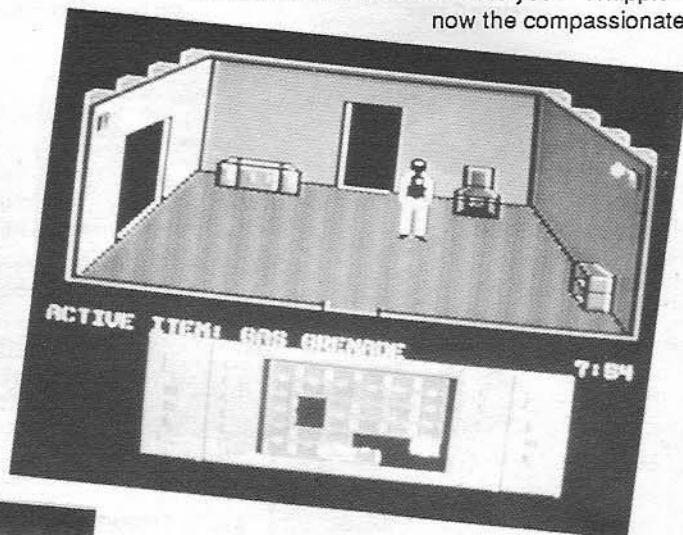
Andrew Farrell and I managed somewhat blindly to stagger along in the clouds and weaponry fragments learning and experiencing the death-defying duties at hand. For there's a lot to control.

First you must do the ADF course properly and to make any kind of a dent in the trip, hit the Turbo Booster to take you on - clicking Maclean over to 45 RPM as it were. However, excessive use of Turbo will dramatically up the rise in oil temperature, and such a thing as this can and will most definitely self destruct your vehicle. Use with discretion.

Yet jammed in amongst the shoddy moves labelled self abuse is danger from somebody worse than your own misfunctions - the other guy. And you can't forget friends, this guy is BAD, and he comes in a huge range of assorted names and flavours.

What happens.. dun dun dun dun..

OK, the instant you spot a fighter jet come into view, immediately hit the asterix button to take you to the communication mode and request ID. The dude sharing your airwaves will then send back a name from which it is up to you to decide whether he is actually friend or foe. For instance it could come back to you - "Whipple" - now the compassionate;



empathetic side of you will most likely deduce a harmless cordial compatriot bagging it out on your same side - but then if you get a name like Jezebel - well, don't wait around to see if it's Cheryl Ladd in a mask - you've got to know its going to be one nasty little momma - you get my drift? Although some names can be deceiving - like "Zippy" turned out to be a disgruntled red coat muttering out a bleak little sentence along the lines of "Die Capitalistic Traitor Pig!" Kind of like the Libyan National Holy Prayer. So that turns out to be a rude shock - I mean, I had a poodle called "Zippy" once - he turned out to be rabid and bit my little sister - a serious setback in my considerable canine affections, let me tell you.

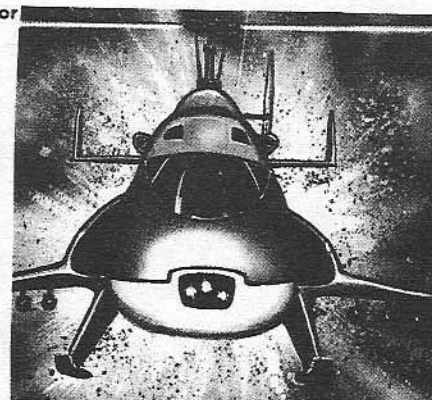
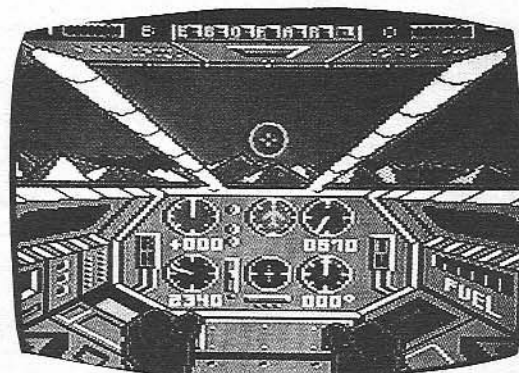
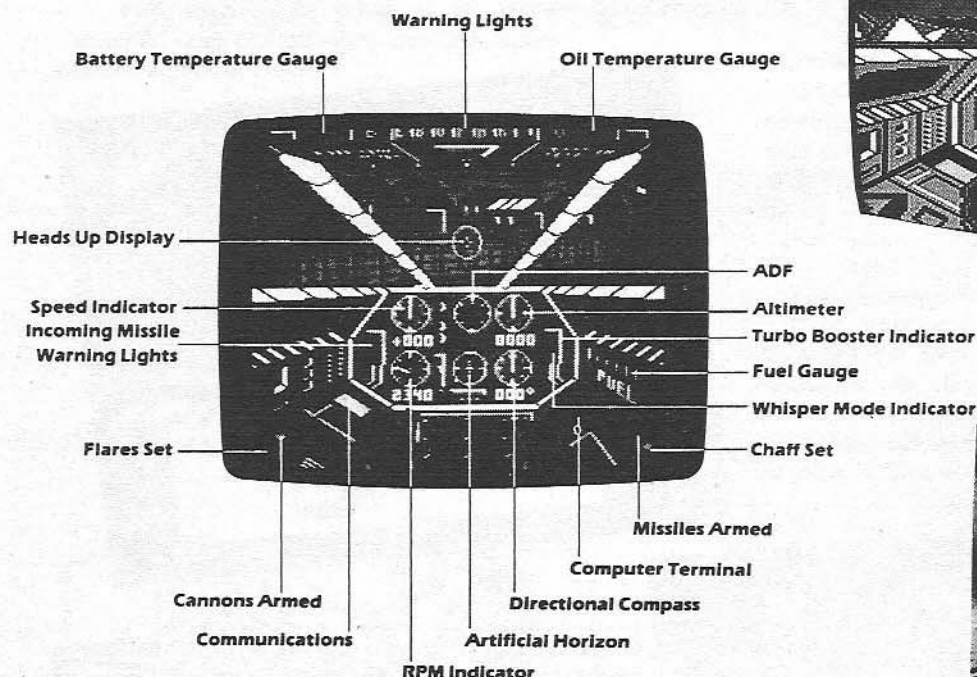
But, anyway a couple you can start off to beware of people is the bad guys - "Zippy", "Boomer" (another cute and lovable dog), "Scum" (not so lovable), "Geoff" and "Rattie". And the good guys go something like "Hamish", "Whipple", "Cremill" and "Gomer". So when you receive these slightly less than colourful names, you decide whether you are going to fly on with them by sending code name Infiltrator to the friends, or instigate a battle by tapping out Overlord on the keys.

You'll eventually work it out - it's a pretty neat innovation, as is the many and varied keys you must type into the message system to either fire at enemies or quickly release them from the scent by dropping "Chaff" - strip of metal creating a radar image of Gizmo.

And finally, you get the information through that you are about on target, it's time to move in and land. Now I don't



Cockpit Display



want to laugh in your face here - but this is the most infuriating part of the game - attempting to land the sucker. It seems you do everything totally accurately, and have got the whole scene covered, but Andrew and I found it a damn nuisance, let me tell you.

Once landed, the second phase of the game begins. Compared to the opening set, it really is a loser. Moving your figure around rigidly through some coloured rooms trying to dodge a trillion and one pesky security guards flaking around the corridors and coffee machines.

You get the implements to search and destroy the premises of course and do your infiltrating thing, but get back to the helicopter as soon as you can - 'cos that is the coolest situation of the game, chopping around up there avoiding your death.

And that's the whole shamozzle - complete the mission displayed in the briefing without being captured, blown up, or running out of time. If you fail five times your game will end. There are three missions that become increasingly more difficult. Once you finish one mission you will be assigned your next task.

And a word of advice - don't take it, man. Head for Maui and retire!

Overall, with *Infiltrator* you get an awesome little package of fun and pizzazz. For a more in depth journey into the jargon of the pyrotechnics of the game, catch Andrew Farrell's preview in the January '86 issue of *Australian Commodore Review*.

But the thing that impresses me most about *Infiltrator* is the crazy attitude of the programmers and writers from the initial

Australian Commodore Review 10

Machine - Commodore 64
Game - Infiltrator
Publisher - Chris Grey
Distributor - OziSoft
Price - \$29.95

Graphics :	92
Sound :	88
Originality :	96
Addictiveness :	92
Presentation :	94
Overall :	94

page of the guide book, providing a crisp, satiristic theme that just makes you feel good about investing in this disk of joyous entertainment. I highly recommend that you check it out and attempt the quest of a life-time.

Just complement the adventure with the ooze of Knopfler's genius and a steady flow of service from the lady with the liquid.

Way to go, Jimbo Baby, you can come on home.



Behind The Screens

URIDIUM

With J. Mark Hunter

Once again the solar system is under attack. It's been under attack so many times before, we begin to wonder if it's even worth defending any more. Or honestly, as far as us novices are concerned, is there anything left of it to defend. It takes so long to master the controls of every new jetfighter that comes along, that by the time we take the joystick in hand and actually start eliminating the enemy aircraft our planet and solar system are half gone.

We'll talk about the ozone layer later - solar system hang on.

Mr. Andrew Braybrook has baked up yet another orbiting craft of bullets and runway dangers. Draining the mineral resources from the planetary cores for use in their interstellar power units, the "Super-Dreadnoughts" are on the rampage, and of course, you must stop them before they suck the solar system dry and up the price of oil.

Once leaving the mothership you are really on your own with just clenched fists holding tight to the reins of a Manta-class fighter, dodging, weaving and flying high over the fifteen different planets. You must attack the defensive screen of enemy fighters, neutralize the majority of surface defences and then land on the Super-Dreadnought's Master Runway - which is really the best part of the game - timing it right so you can land the Manta and get rejoiced.

The hitch comes though, when after you have completed the raid over the planets and shot out all their surface defences you have nothing left to do but kill time, wallowing in outer space east of the master runway, taking random pot shots at the dreaded Dreadnoughts until the "LAND NOW" message appears blinking at the top of the screen.

The hassle is that you must fly back over the master runway and circle in again to swoop down on it from left to right, and fast enough so the Manta does actually land. Many times on my play I found myself not landing at all but zipping on past it like it was some kind of Qantas non-stop flight to L.A. The trick is to get up your speed and fly in level right from the absolute start of the runway - remember that.

And beware of meteor shields and communications aerals protruding from the planet's surface - head-on collisions frequently occur, and too low a velocity forces your jet down to susceptibility of easy missile onslaughts. If you go fast enough you can outrun the missiles and at the same time, increase of speed raises you out of their ranges.

"...gymnastics and versatility, a techno-Jonathan Livingston Seagull.."

Overall URIDIUM is an okay flick of video pow-pows and roars of outer-space craft flying panickily overhead. The Manta fighter is quite a sporty little instrument of gymnastics and versatility, a techno-Jonathan Livingston Seagull as it were. You are allowed the freedom of soaring full-throttle over the planets, then flipping around and changing direction at whim, enabling you to manoeuvre through restricted spaces and discharge your volleys of retaliatory action at any and all waves of enemy craft.

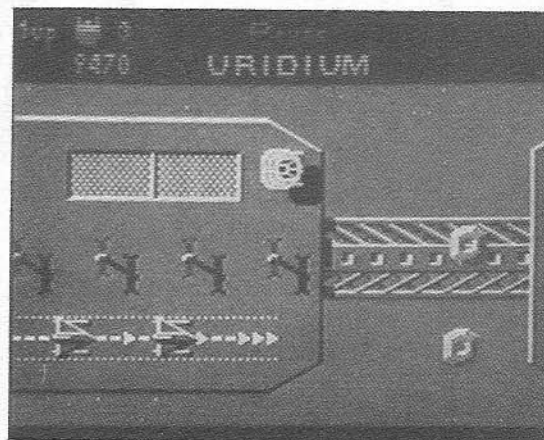
The graphics are pretty basic in grey and white surface colours although they change to flashy reds and blues as new frames appear. I was intrigued by the simulated shadows Braybrook has lodged beneath the belly of his Manta

jetfighter and off the structures of aerals and meteor shields at right angles on the ground.

Note, too, the fiesty little killer satellites that home in on your exhaust if you hang around a planet too long. They're a major pest, especially when you're trying to swoop back for a landing on the master runway. But I guess one of the more skilful tests comes with the actual refueling chamber, where you must compete with a "quit" mode for the acquisition of additional bonus points, the sequences rapidly flick faster and faster as you move to the top of the pyramid refueler.

Then one other minor pet peeve, a bruise to the ego you might say, or really just a disappointment at short-lived historic glory - the listings on the Hall of Fame. I beat Andrew Braybrook's top score by 6000 odd points, then flicked off the machine and returned the next day to find that all such records of this pleasing success had been erased into spiteful obliteration. Not too cool.

Other than that there's not too much more going on. I found it much more interesting playing it the first time coming



14455 URIDIUM

home after a heavy Saturday night rage than on a subdued Sunday afternoon when I could get distracted by much more attention-altering things - like flies on the window. The patterns become very routine and you learn them quite swiftly, the only thing that changes from frame to frame is the positioning of items that you can run into and the year model of the enemy jets.

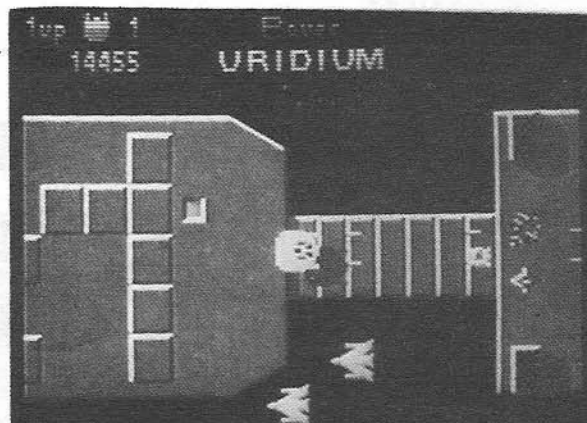
As I said - the best part of the game is landing it - then park it in the hanger and fly it again some other epilog to a Saturday night.

Don't ask for an unbiased opinion from me, I was hooked from the word go. After several grueling hours of shoulder to shoulder confrontations with J.Mark (Legend in his own mind) Hunter I managed to fire up a score of 23050.

Uridium is a radical piece of programming with some speciality manouvers that are unique to this creation. The bass-relief grey scale graphics make for a somewhat familiar looking landscape at first, however this is diminished by the captivating tactical formations of alien craft which make life on the planet surfaces extremely hectic.

Addictive, entertaining and well presented in the usual Braybrook style. Another classic game that is a must for all arcade addicts.

- Andrew



Machine - Commodore 64
Game - Uridium
Publisher - Hewson
Distributor - OziSoft
Price - Cassette \$29.95 (approx)
- Disk \$39.95 (approx)

Graphics :	96
Sound :	80
Originality :	88
Presentation :	98
Addictiveness :	80
Overall :	90



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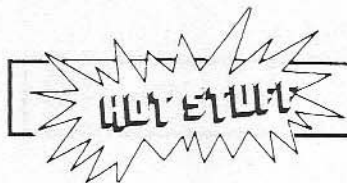
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BOUNDER...



by Andrew Farrell

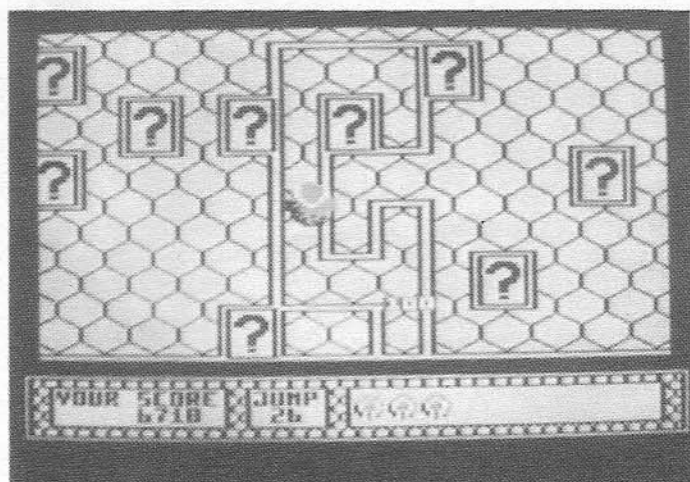
Fresh off the tennis court and bouncing straight onto your local video screen comes *Bounder*. A compulsive action game with its fair share of ups and downs. Eyeball exercisers extraordinaires, Gremlin Graphics, have constructed a theme with a difference.

You take the commanding volley of a regular tennis ball. A suspended grey foreground scrolls down the screen, lush green valleys lie far below. With careful joystick jolting you can bounce your way up the screen toward your goal, and a chance at the bonus phase. Missing the path sends you plummeting to the ground far below.

Your path is hampered by rocky outcrops and gaping holes in the smooth cement pavement. Occasionally nasties appear in various forms. Men on hanggliders and floating logs come flapping, hopping or rotating their way miserably toward you. These arrive in droves as the game progresses, making the going somewhat hectic.

There are plenty of opportunities to increase your score by use of the mystery squares. These appear as large question marks, offering extra points, bonus balls and the oddly unexpected munching false teeth that quickly devour your rubber extruded sphere. Familiarity with each frame is an advantage - there is only ever one easy path from start to finish.

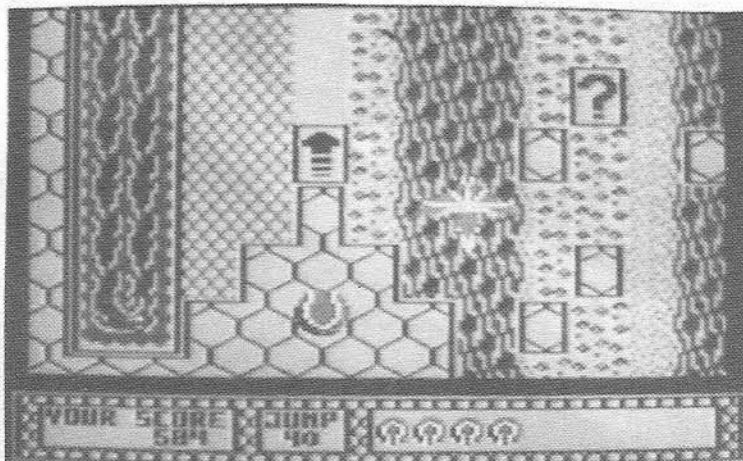
Controlling each bound is fairly simple if a little unrealistic. Midflight adjustments are catered for, allowing you to make last minute corrections to save face for one more attempt. With plenty of practice it's possible to use this facility to gain a perfect score during the bonus stage.



Some areas of the scenery can only be traversed using what amounts to booster squares. These appear as arrows and provide added punch, giving your bounce twice its usual distance.

Later on the problems arrive thick and fast. Missiles, flying beasts and even disappearing paving stones. Plenty of variation and some challenging portions to hold your interest.

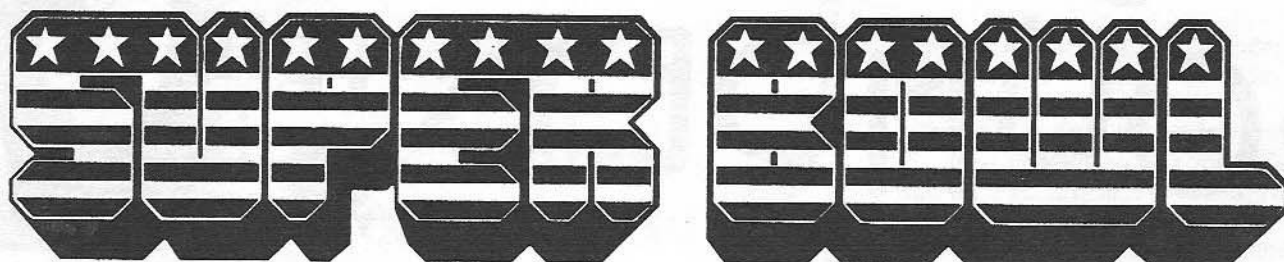
A neat piece of music plays as you progress through the well designed graphics. The presentation is solid and easy to follow. A well written game that deserves to be a part of your disk collection.



Machine - Commodore 64
Game - Bounder
Publisher - Gremlin Graphics
Distributor - Melbourne House
Price - Cassette \$19.95
- Disk \$24.95

Graphics :	88
Sound :	90
Originality :	94
Addictiveness :	96
Presentation :	90

Overall :	92
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by Andrew Farrell

Steaming hot dogs with a jacket of mustard line up for the play off with hamburgers and Coca-cola. All the hype and pomp, minus the food wrappers, is captured in Super Bowl, with action replays and crowd cheers to add to the atmosphere.

In this year's American Football grand final, the Chicago Bears and New England Patriots met face to face. Now is your chance to replay that event. Don't

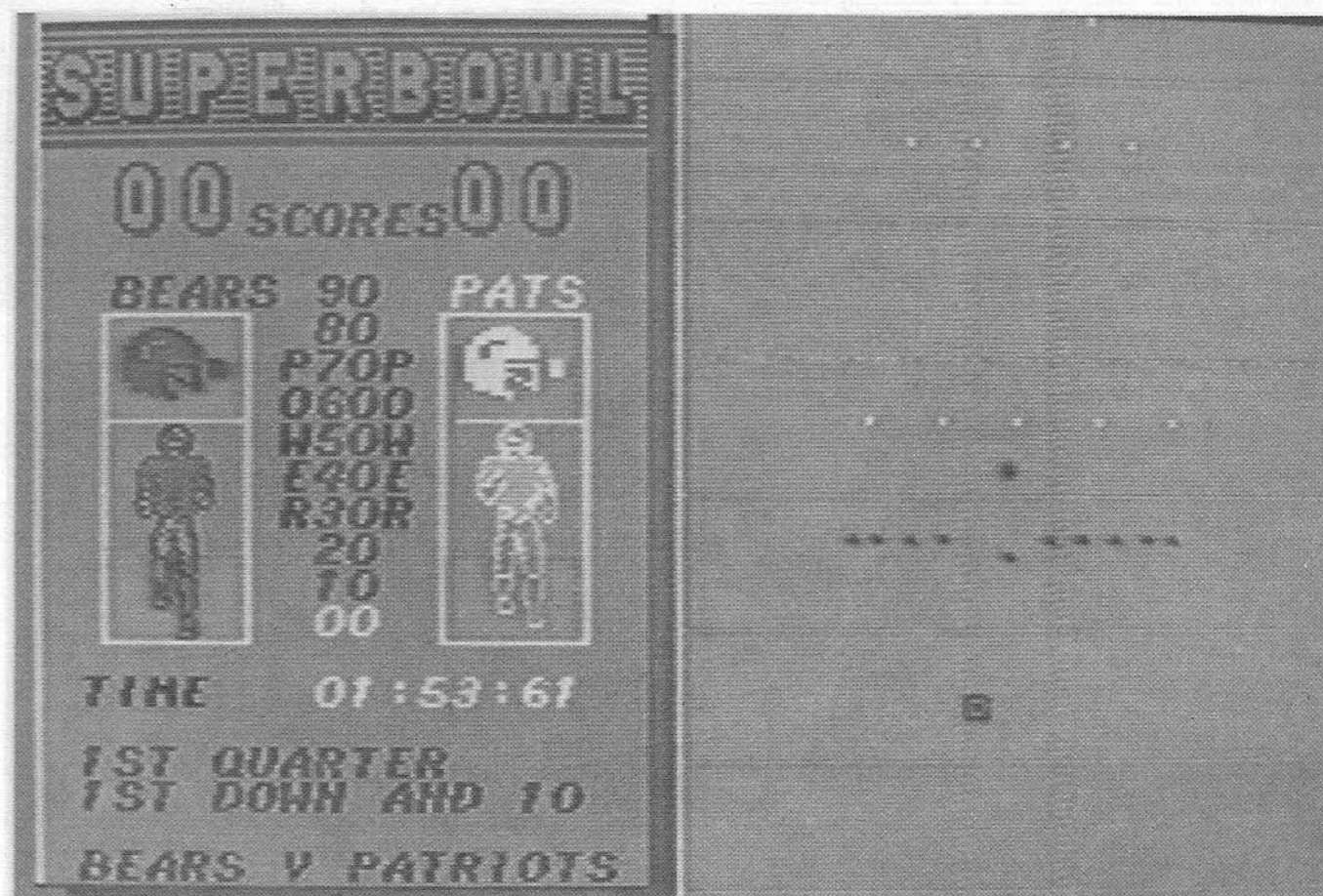
be put off if you don't know the rules, or have never heard of the game. Simple joystick operated menus make play a breeze.

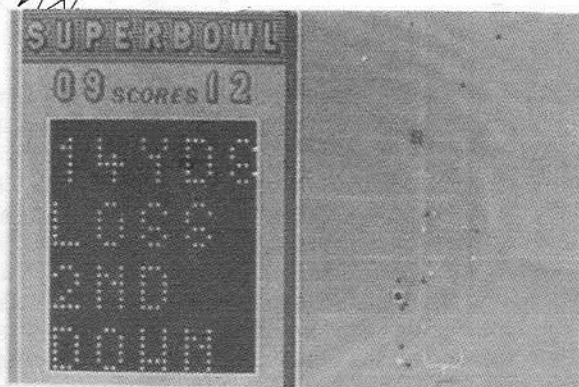
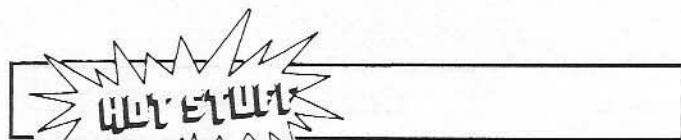
Don't expect to be an instant expert, after all, this is a simulation of sorts. Your screen is divided into two areas. On the right half is a bird's eye view of the playing field visible from where the game is currently situated. To the left you will find scores, two mini-video action screens and various other unrelated bells and whistles.

Occasionally a full sized video screen

appears on the left side, which then provides the viewing area for action replays. These may be skipped by a quick press on the fire button, just as easily as you might get rid of Tony Barton and progress to Daryl Summers with a brief push of the remote control.

One or two players are catered for, although the computer doesn't offer a very formidable opponent. The match is played in four realtime fifteen minute quarters, with a change end at each quarter and the first and third commencing with a kick off.





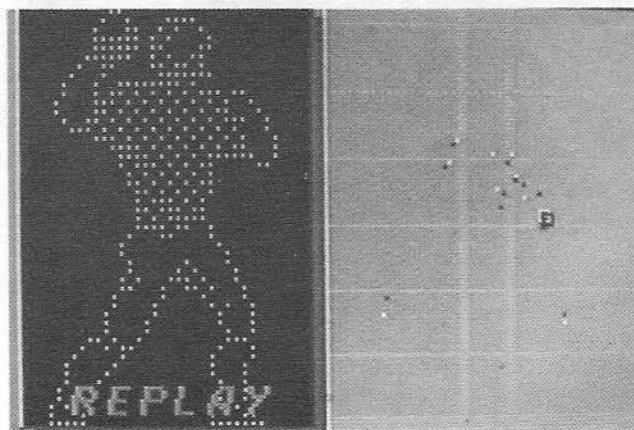
Players control the defensive and offensive manoeuvres of the team as well as directing passing and tackling during play. *Super Bowl* provides good solid feel, with a strong amount of involvement and very realistic game progression.

Whilst the sound and graphics are not fantastic, the presentation is polished with animation during the replay sequence that would keep Warner Brothers amused for hours.

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Game:	Commodore 64
Publisher:	Ocean
Distributor :	OziSoft
Price:	To be announced
Graphics:	86
Sound:	62
Originality :	84
Presentation:	96
Addictiveness:	92
Overall:	90



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V The Game.

by Johnno

Reptilian aliens have arrived to take over the Earth and enslave its population. The freedom of mankind rests with you, Donovan, in your attempt to disable their mother ship - the future is in your hands.

After reading the instructions on the cassette case, I thought, "Well, by the sounds of it, it must be a good game". Boy oh boy, was I disappointed. After waiting for it to load, it had no title screen of a sleazy lizard eating a rat or a mouse. But on loading it prompted with "press fire to start". Quickly going back to the instructions, I found it said that upon loading you will be prompted with a menu for one or two players. Where was it? There was no sign of a menu, just "press fire to start."

After plugging the joystick in, I pushed the button. All of a sudden a two-storey side view of the level and block I was on appeared. Wandering around trying to find out what to do, I was blocked off from both sides by security doors. Many attempts went past with no success.

Not a very appealing game to the normal player. With the same sound blaring out of the TV speaker, it lost its appeal almost an hour after I started. The hard thing is that on your Communiputer, half of the icons are in the aliens' language. The instructions had no mention of the codes or a transfer

for alien characters to our characters. All very confusing after about an hour with nothing to show but the same corridor in which you started.

Your mission, after you get past the security doors, is to plant five sets of explosives over the mother ship at certain checkpoints. These checkpoints are the AIR PURIFICATION PLANT, CENTRAL COMPUTER, WATER INLET, NUCLEAR REACTOR, and DOCKING HANGAR. There are also laboratories which contain the formula for the red dust, which is lethal to the alien intruders. The mother ship is five levels up. You can use the LATERAL DOORS to jump from level to level, only if you know the access code.

On your mission you will encounter dangerous killer robots. These robots are:-

MAINTENANCE:- These travel along the floors of the ships corridors.

CLEANER:- These float along the corridors at head height.

SURVEILLANCE:- This robot reports Donovan's whereabouts to the central computer.

SECURITY:- This robot is not so nice, he shoots to kill.

All the robots are operated by high-voltage static electricity, which has the same effect as a blast from the security robot. The blast from the security robot will not kill Donovan, but will put a high strain on his heart. This is shown by a cardiograph at the bottom of the screen; if your cardiograph line goes straight then you've had it.

Your laser has only limited shots. When it runs out you can use your Communiputer to recharge your blaster.

If you manage to figure out the aliens' character set you can travel very far. But if you can't then you've got problems. If you do master the Communiputer you can open the security doors and use the Lateral Doors. Each door has a security number.

If you have been waiting a long time for this program, then you may be generally disappointed with it. The graphics are average and the sound is very annoying, but if you do manage to keep your cool without breaking out and smashing your joystick to smithereens, then you might just have a chance.

Comment:- A fair but not addictive game. Plenty of action once you get past the security doors, but generally a so-so game. Well worth the money if you like a good puzzle.

Machine -	Commodore 64/128
Game -	V
Publisher -	Kaos
Distributor -	Ozi Soft
Price -	\$29.95

Graphics :	82
Sound :	38
Originality :	72
Presentation :	77
Addictiveness :	65
Value for money :	70

Overall :	78
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Thing on a Spring

by Andrew Farrell

By no means a new entry to the competitive games market, yet no doubt worthy of its first if not late mention in ACR. *Thing on a Spring* is of the Monty Mole genre, with a whole host of bounding, floating nasties scattered across a ladders and platform type scenario.

'Thing', as our little cute and somewhat harmless character is known, bounces and springs about the place in a haphazard fashion, finding his way about the place in almost gay abandon. In this underground fantasia Thing must locate an armoury in preparation for his final confrontation.

He is a reasonably invincible character who has a devout need for oil, and a nasty habit of overheating. He can make his way into places that can leave him hopelessly trapped. Some of the platforms disappear beneath your feet, making the way clear to explore further into the game. However, some consideration must be given to getting back out of such areas.

Extra oil may be obtained at intervals, whilst special bonus prizes are also to be found. The game is fast, with careful joystick control needed to master the

'Thing on a Spring'. Flipping from one perch to the next, Thing is a prime candidate for the cute character of the year, despite the fact that he has been viciously hounded by certain British magazines who have given this poor chap a rather bad reputation.

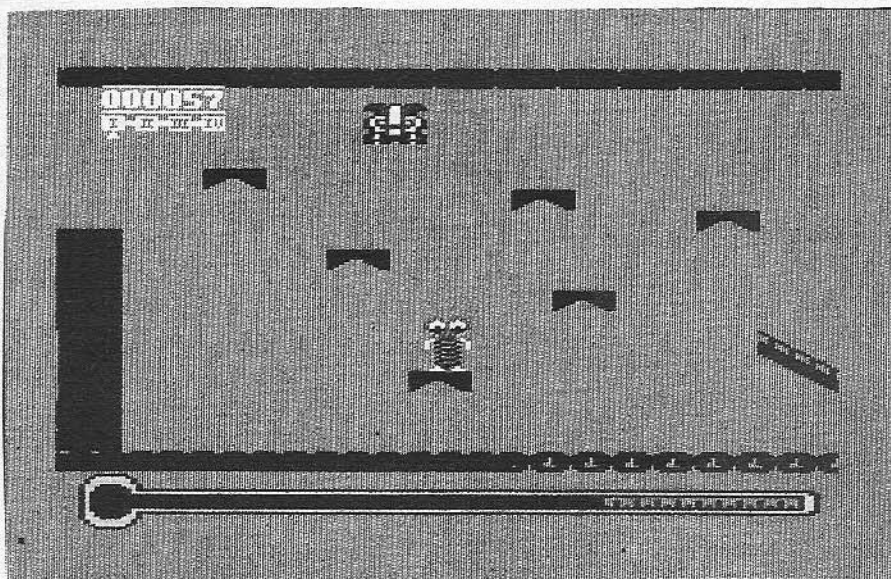
In my books, *Thing* is a bit wishy washy, lacking specific direction. Visually, it is pleasingly presented yet nothing more than acceptable. Excellent animation, with smart presentation in the usual Crowther style.

Musically, it is a captivating gem of SID chip flexing and speaker pumping jazz and funk. I like immensely, my flatmate on the other hand hates it!

Cute, entertaining, moderately impressive, *Thing on a Spring* is a worthy addition to your library.

Machine	: Commodore 64
Game	: Thing on a Spring
Publisher	: Gremlin Graphics
Distributor	: Melbourne House
Price	: Cassette \$24.95
	: Disk \$29.95

Graphics:	88
Sound:	94
Originality:	82
Presentation:	88
Addictiveness:	86
Overall:	90



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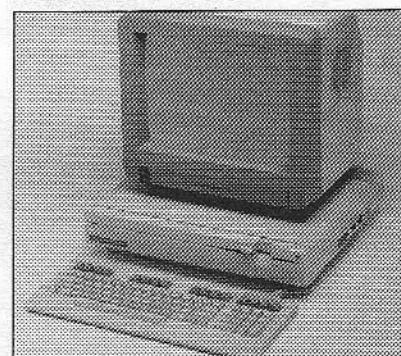
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Saboteur!

Saboteur is another Karate style game, but this time it's Ninjitsu, the ancient art of self defence for any occasion. You play the part of the ninja, in this action-packed game. You are dressed in all black, which makes you easy to see.

As a highly skilled mercenary trained in the martial arts, you are employed to infiltrate a central security building which is disguised as a warehouse. You must steal a disk that contains the names of all rebel leaders before its information is sent to the outlying security stations. You are working against the clock, both getting the disk and making your escape.

Enter the building from the sea by rubber dinghy, and then you must leave by the helicopter on the roof. You will have to find your way around the warehouse, making use of the guards' own weapon supplies in your struggle through overwhelming odds.

Although your man doesn't have many moves, they are enough to finish the job and escape. Among the moves there is the HIGH KICK, which kicks to the head of the attacker, in this case the guard. You can throw objects like stars and knives which you find in your mission lying about the place. The guards are also trained fighters.

The level of difficulty you start on determines how good the guards are. Your energy is displayed at the bottom of the screen as a left to right bar graph; it decreases when you get bitten by a dog or if a guard grabs you.

But don't let it worry you because if you stand still with no-one attacking you, your energy flies back up to the top

again. But remember, the longer you wait the less time you have to get the disk and get to the helicopter and make your escape.

When fighting you can use different styles with different obstacles. There are two types of obstacles, the dogs and the guards. To get rid of these menacing pests you can either:-

For a dog: pull the joystick down or towards you and push the button while you are facing the dog and whatever weapon you are carrying will fly across the screen and kill the attacker, which is the dog in this case.

For the guards: you can either run out of the room to the next, or just jump up and kick him in the head with a powerful blow.

Weapons you are capable of throwing are knives, shurikens (ninja stars), grenades, bricks, rocks, and pieces of pipe. To tell you that you have one of these items, there is a little square at the bottom left hand side of the screen. If you are say carrying a shuriken, a picture of a star will appear in the little square.

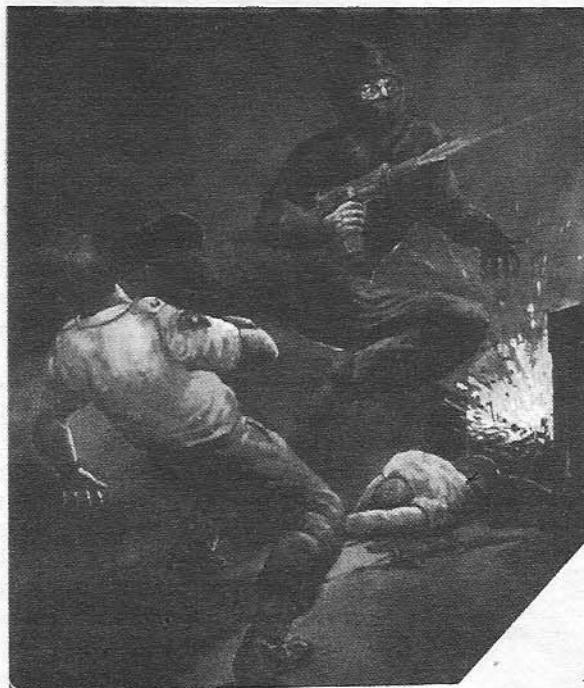
The top threequarters of the screen is just pictures, and the bottom has your score or money earned, what you are holding, and energy, and on the right tells what you have just walked past (only displays weapons that you have walked on top of).

While loading, a picture of two ninjas appear on screen, and when it has loaded you are presented with a picture of another ninja on the left and a high score chart on the right. After pressing the fire button you get a selection of how difficult you want the game to be, from very easy to almost impossible.

Anyone who likes Karate style games, and anyone who likes impossible mission type games, will have a field day with this one.

The graphics on this game from Durell are quite impressive. The animation is ranges from fair to great and it has enough addictiveness to make your eyes pop out and your joystick melt. You can use either joystick or a selection of keys.

Comment:- A great piece of programming from Durell, with the same quality from another winner of theirs - *Critical Mass*. Well worth buying and it should appeal to the more active and adventurous type of computer person.



Commodore 64
Game - Saboteur!
Publisher - Durell
Distributor - Ozi Soft
Price - cassette \$24.95
disk \$29.95

Graphics :	90
Sound :	54
Originality :	68
Presentation :	87
Addictiveness :	91
Value for money :	92
Overall :	89

Datex Optical Mouse

Real men don't use mice. Or do they? The question has been merely academic for Commodore users until now, as mice were the playthings of rich Macintosh and IBM owners, to be sneered at (and envied) from afar. The Datex Optical mouse for the Commodore 64 offers to change all that.

Phil Campbell our resident Commodore Mouse Guru takes a ground level view of our first furry contender.

The Datex system consists of a "high quality optical desk top mouse" which plugs into control port 2, and a reasonably comprehensive (although monochrome) graphics program which is supplied on both cassette and disk.

The Mouse

The mouse itself is quite nicely designed, fitting comfortably under the palm of the hand. The lead protrudes from the front of the unit below the two control buttons, and is usually out of the way. The cream colour of the casing blends perfectly with the new Commodore 128 (with which it is of course compatible), perhaps in an effort to encourage lovers of visual harmony to upgrade their computer systems. An inspection of the undercarriage of the rodent reveals a steel ball bearing of about 15mm diameter, which protrudes slightly from a small circular window. The internals of the mouse remain shrouded in mystery, except for the promise that the mechanism uses an "advanced optical encoding system which never needs adjusting".

The two buttons on the front of the mouse are known as the "SELECT" control and the "RELEASE" control, terms which more accurately refer to the functions of the buttons under the control of the supplied graphics program.

The Program

The graphics program provided with the mouse is quite comprehensive, and appears to be modelled on *MacPaint*, the Macintosh graphics package.

Pull down windows feature heavily, as do the now famous "icons". Pencil, Spray Can, Paint Roller and Eraser icons are selected by moving the pointer to the appropriate tool and pressing the select button on the mouse.

Symbols representing squares, circles, text, spray patterns, brush shapes and fill patterns are selected in a similar fashion. Twenty fill patterns are provided, and if you can't find one that you like it is a simple matter to edit a

pattern or create an entirely new selection.

As mentioned previously, the program has limitations in the colour department. The package has been designed to use high resolution mode rather than multi-colour mode to allow the highest possible screen resolution.

Multi-colour mode sacrifices half the horizontal precision, but allows the use of more colours in each screen cell. In a concerted "Macintosh imitation" like this, the decision to stick with high-res is reasonable. Besides, it's not really so bad: you can choose any of 16 paper and ink colours.

Although such menu driven programs are supposed to be "intuitively obvious" to operate, I found that there were a few tricks to be mastered.

Firstly, I had assumed that the pencil would be the obvious icon to select for freehand drawing. Wrong. The pencil only draws straight lines. The spray can must be used for freehand work, using a spray pattern from the Pattern Menu.

I also encountered many frustrations trying to get outlines "watertight" so that fill patterns did not spill out into surrounding areas. It seems that the only way to do this is to select a line of at least two or three pixels wide for all borders: it was just too difficult to get single pixel lines to join up properly.

The text icon allows text to be inserted anywhere on the screen in any of four typefaces. This is a nice touch. The program also allows parts of the picture to be copied and reproduced elsewhere on the screen, and a number of other features which are all hidden



HARDWARE REVIEW

away neatly on their 'pull-down menus'. Naturally, images (and edited brush and spray patterns) can be saved on disk or tape, and printed on a suitable dot-matrix printer.

Conclusion

The DATEX OPTICAL MOUSE is a competent package, although not without its frustrations. The fact that I keep comparing it with an Apple Macintosh is perhaps a compliment in itself, but unfortunately it does not really match up to such a far flung goal. I was at times irritated by the amount of desk space which the mouse kept trying to consume, and also by the continual slippage of the metal ball across my laminex desk. (The manual warns against using the mouse on surfaces which are too smooth, but I couldn't afford a new desk!). Many modern mice (such as the Amiga mouse) use a rubber ball to get around this problem.

The graphics package is good, but limited, and I guess I can endorse the comments of the person who once

said that creating graphics with a mouse is like drawing with a lump of camembert cheese. Practice makes perfect I suppose, but I know that I was creating better pictures with less practice on my Koala Pad (and in colour too!). Datex have promised that they will soon be releasing a number of other mouse operated programs, including a word processing package. This will be interesting .. but in the meantime you can put your mouse to work with any joystick operated games, and even to control the cursor in *Easyscript*. It really flies, and is great for highlighting big hunks of text for deletion or relocation. Even better, the Datex mouse is ideal for use with *JANE* on the Commodore 128.

In conclusion, if you're curious about what mice can do for you, the DATEX Optical Mouse may be good value at around \$150.00. Although the program included has its limitations, it is good fun to use. Compatibility with other programs guarantees that you will find plenty of other applications, and besides ... nothing looks more impressive than a

mouse beside your computer. What budding executive could possibly do without one? The DATEX Mouse is distributed exclusively by the BIT SHOP, P.O. Box 28, Earlwood, NSW. For further information phone (02) 579 1549.

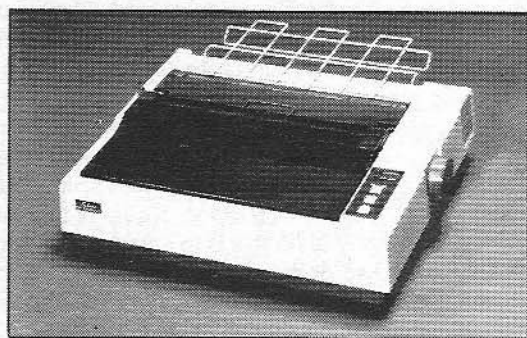
Datex will introduce new software in the near future which will support the mouse including a word processor and spreadsheet with printer configuration for Commodore printers. As the software currently stands it will handle centronics printers connected via the user port. A utilities package will also be released to add additional features to the program, including speedier mouse operation and a zoom facility.

Update - Update - Update

Datex Optical Mouse improved version with rubber ball and new faster software will be available in about two months time.

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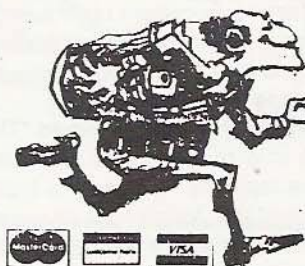
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In Which the Mouse meets the Cheese

Rodent lovers step forward, wipe away those cheesy grins and prepare as *Ken Mousetrap Longshaw* puts the second Mouse contestant to work.

Having kept white mice as a child, and owning several of the rodent family now, I was mildly disinterested to be given yet another grey, longtailed object to review. The box is uninspiring, or should I say unpretentious. I opened it to have several scraps of typed page float out. Scrap paper? No, the directions! Oh dear, was this an el-cheapo job? Inside the box was a neatly packaged mouse, grey with two blue buttons and a cassette. Yes, my worst fears were confirmed.

My antiquated datasette I found below the Kentucky Fried boxes and Macburger wrappers in a drawer marked "pre Stone Age". To my chagrin, loading up and typing RUN resulted in a cerebral haemorrhage and biff nothing. "If all else fails read the instructions". The SYS command is mandatory for program operations. Prehistoric?

However I must admit I was impressed once I got into the actual program. Before I say more though, I will have to digress.

I was so mortified by the tape and SYS instruction thing that I rang the manufacturer/supplier to complain. To my surprise a very nice person appeared at the office very soon, floppy disk in hand and heaps of helpful hints.

Ewan Bishop (code-named "The Mo") was a true repository of virtuous facts.

The tape, he said, was a typical US botch and the Aussies (our heroes) took it to bits and put it back together in a

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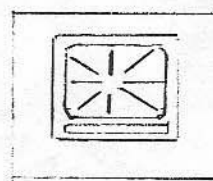
much better way. All *Mouse and Cheese* sold in Australia will have tape and disk in the box, a giant step for C64 users.

For those of our worthy readers who still use a trusty tape to load up, there is hope. Ewan said "a fast loading version of the mouse can be produced on cassette by use of the Final Cartridge. However this does require knowledge of memory locations and the use of a machine code monitor. Pactronics have contacted the manufacturers for the particular locations. These will be available sometime in the future through this magazine." According to Ewan this will result in a 17.2 second loading time as opposed to three minutes plus. Wow! Good one, Ewan.

Returning to our (now turbo-loaded off Final Cartridge) mouse. As I said, it is well made, with a rubber ball. So it works

precisely on any surface. No skipping or skidding on the kitchen table. The buttons have a pleasant positive response and minimal delayed reaction time. The mouse can double as a joystick although it will have its obvious limitations (Ewan is working on this too).

The directions though are nothing short of ambiguous. A lot more precision would be appropriate. For example to clear the screen more was involved than



Clear screen ikon

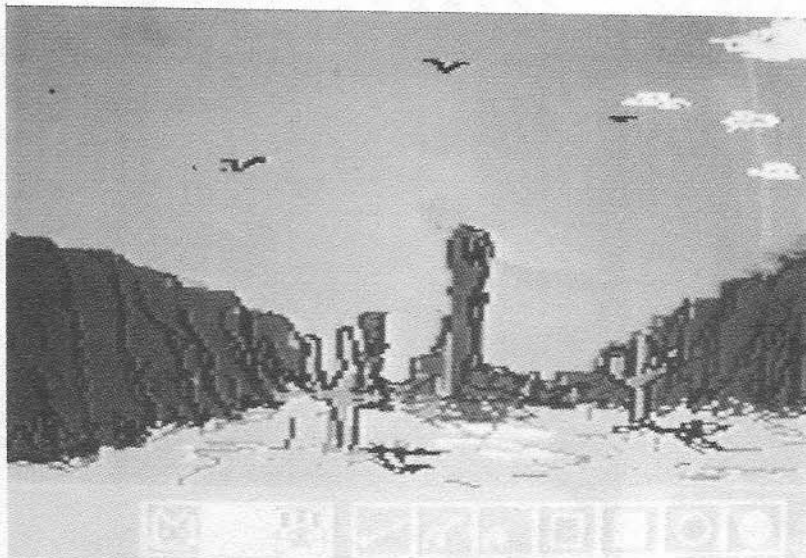
"select the canvas colour by clicking the right button". The inkpot ikon and a colour were necessary 'clicks' in the right order to achieve the clear screen command.

Once I had entered the actual function of drawing and painting I was ecstatic. The colour is exceptionally well used. The mirrors are a joy. Creating spyrographic galaxies and fantastic prismatic doodles is easy. From a computer artist's point of view the program is great.



Drawn with Mouse and Cheese

HARDWARE REVIEW



Ewan says they are working on a Relocator program that will strip the picture you paint and allow you to use it in the latest Warlords Battlefields Scenario that you are writing. Exciting?

The Copy icon is fun. You want a forest? OK. One tree - green, leaf tile

pattern, spraycan, then a brown pencil - then box it and Gesundheit. Proliferation of leafy configuration across your screen (of course, only where you want them).

A useful feature (I like it more than the Macintosh's Fat Bits) is the icon called Loupe (returning to Romancing the

Stone? No, a time-saving magnifying feature to allow detailed work on faces, hands, feet and any other precision work. Good one, Neos.

A few small objections. To type a title on the picture the mouse has to be unplugged. Pity. The directions - well, what can I say? And the SAVE routine. Commodore says you can save eight pictures on a disk but Ewan's recommendation is "that you only save seven pictures per picture disk due to the 'ALLEGEDLY' non-existent bug in the Commodore's 'SAVE AND REPLACE' routine".

Printing, I am assured, is possible on most late model Commodore and Commodore compatible printers. The 801, 803, and 1525 and calcutronics printers with a serial interface.

Altogether this is a good package for a serious computer person, although not without its problems. It is worth the \$149, as it is planned to bring out more software that will be compatible. Distributed by Pactronics, (02) 630 7881, and you can get it at Grace Bros and Waltons stores.

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How the Mouses Line up

Visually these mice, or mouses as they are known in the industry, are as different as a VW Beetle and a Porsche Carrera. Who fits which set of wheels? **Ken Longshaw** scrutinises further.

In appearance the Datex Mouse is short and stubby. The two buttons are on the front face where your fingers hang over it. As Phil said, it does "fit neatly in your palm." Neos is lower and longer with the buttons like Porsche pop-up headlights. Your palm rests on the back and fingers on the two buttons: comfy.

The major point though where I think the boy is left behind the man, is the Roller Ball that constitutes the heart of the whole mouse idea. Let me expand.

In the base of the mouse is a hole where a ball rests. You all know that, but bear with me, please. This ball will roll as you move the mouse over the table. The precision of your mouse is 100% dependent on the way this ball rolls. If it moves smoothly, gripping the surface, you get a crisp action on the screen. The three rollers that 'read' the movement of the ball must not miss any of its action. These rollers are normally steel.

So back to the mice. Neos has a large heavy rubber covered ball. It weighs about 20 grammes so it won't bounce over ripples in *The Australian Commodore Review* you are pressing on. If you use a laminex table it grips even better, plus the steel rollers are turned without any slippage.

The Datex on the other hand uses a much smaller ball. This ball is steel. It slips on almost any surface. I couldn't get it to work on my wooden table. The mouse travelled five feet for one inch on the screen. Even when I used a rubber mat it didn't function too well. Steel on steel again.

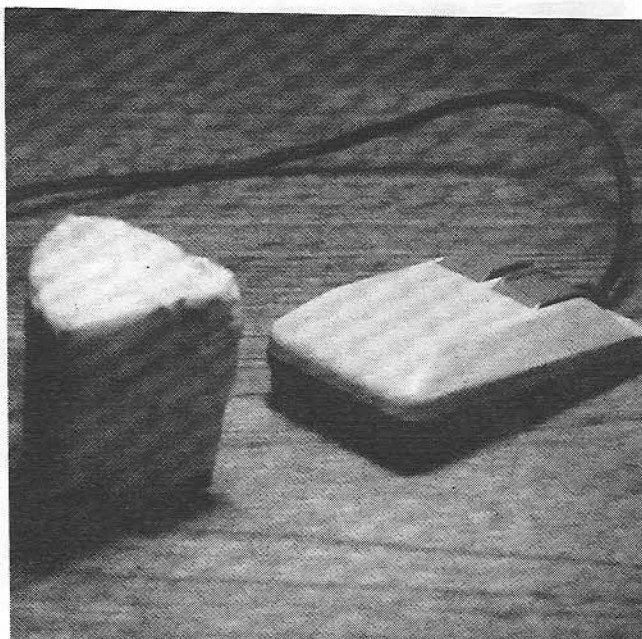
The colour range on both is comparable, although the vividness and use of colour is superior on the Neos. Changing colour is easier too.

Features are comparable, and you must unplug both mice not to interfere with the keyboard matrix.

The Datex program allows you to create your own patterns. I did not discover such a feature on the Neos, but it has a very comprehensive range of patterns. The paint brush on the Neos is used like a Macintosh or Atari paint pot ikon to fill the screen or area with the selected pattern. Datex uses a Roller Ikon.

Summing up shouldn't be necessary. But for my money the Neos is the better package. At 100 pixels per square inch it is

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Update - Update - Update

Datex Optical Mouse improved version with rubber ball and new faster software will be available in about two months time.

accurate enough. Colours are better and most importantly the mouse does what you want it to. No frustrations, just simple direct movement.

Comparison Chart

	Neos	Datex
Ergonomics	10	6
Colour Access	9	7
Use of Icons	7	7
Accuracy	8	5
Software	7	6
Appearance	9	6
Value for money	10	6
Overall	9	6
Price	\$149	\$159.95
Distributor	Pactronics	The Bit Shop

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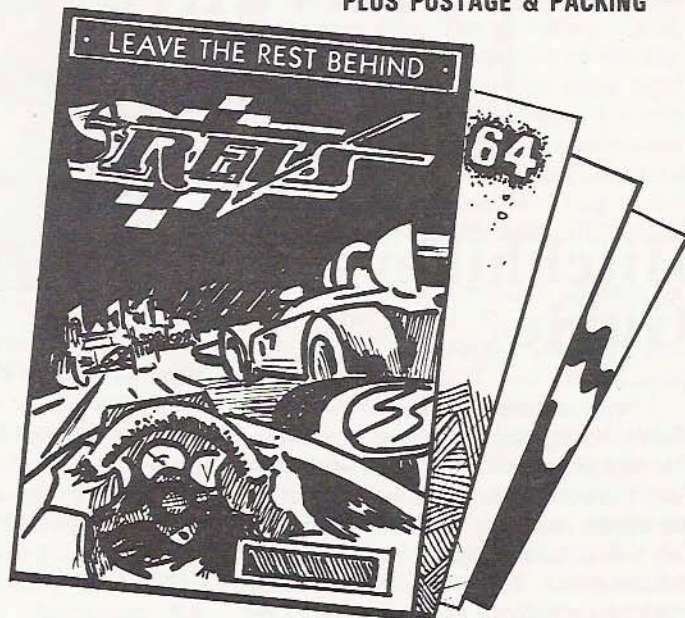
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Adventurers' Corner

Hitchhikers' Guide

I have a problem with *Hitchhikers' Guide to the Galaxy*. I have made it to Zaphod Beeblebrox's ship with the Atomic Vector plotter, the Advanced Tea substitute, and the spare Improbability Drive. But, when I plug it into Eddie and pull the switch, it fuses, and when I pull it again strange things start to happen. Can anybody out there please help me with this frustrating problem?

David Brownell
Traralgon Vic

Zorks

Note: Refer to April edition of ACR

Since last time I wrote I have mastered both *Zork I* and *II* with your help and currently 6 out of 7 in *Zork III*. But I have struck a problem in addition to those of S. Pillay. The problem is how do I use the wooden structure inside the mirror and does it involve the wooden staff?

But I am able to answer Sonja Taylor's question on *Zork I*.

A16) The other occupant and the thief are the same person. Kill the thief with the nasty knife when you have more points, it's easier.

A17) You can either give the egg to the thief or leave it for him to find. Next time you bump into him he will have opened the egg and then you can kill him. But any treasures he has stolen from you will be in his treasure room in the maze, but that's another problem altogether.

A18) When the green bubble is glowing

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the panel is on. Try turning the bolt with the wrench after pressing the yellow button.

P.S. I have purchased an old Infocom adventure game called *Starcross* and have a question to ask.

Q1) How do I get the red rod out of the rat-ant's rest?

Keep up the good work ACR, a satisfied adventurer.

Gunars Berzins
Yagoona NSW

Zork I

In reply to Sonja Taylor's plea for help, as published in your April issue, I would like to submit the following tips for *Zork I*.

1. Forget the thief until your score increases drastically
2. Let the thief steal your treasures. He hides them in the treasure room
3. The thief has the expertise to open the egg
4. The nasty knife is most suitable for the thief
5. The Cyclops is scared of a close relative
6. Control room buttons -
One activates the light
One de-activates the lights
One activates the sluice gate
One de-activate the sluice gate
One bursts a water pipe.
7. The green bubble glows when one of the control room buttons is pushed. This opens the sluice gate allowing you to cross the reservoir.
8. To enter 'Hades' you will need
- a brass bell
candles
matches
black book

9. To get the platinum bar, check out the echo

10. The bat has a sensitive nose

11. To transform the rainbow wave the sceptre

That's enough for now.

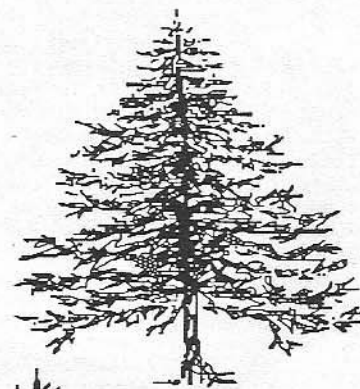
Happy Zorking
C Stephenson

Zork I

To preserve Sonja Taylor's sanity I submit a few tips about *Zork I*.

- 1) The thief and the "other occupant" are one and the same person.
- 2) You cannot kill the thief until the end of the game when you are strong enough. In the meantime you should ignore him and move out of any room he enters.
- 3) It is essential that you let the thief have the egg as he is the only person who can open it and extract the treasure inside it. You should drop the egg anywhere underground so the thief can get it. Don't worry you will get it back in the end.
- 4) The green bubble is simply a green panel light. It lights up when you press the yellow button to activate the control panel. You can now turn the bolt with the wrench and see what happens.
- 5) The red button turns the lights on and off. The brown button deactivates the control panel. Don't press the blue button. It causes a pipe to burst.

Mark Hennessy
Dover Heights NSW



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"UPC1" has it's uses but in its current form cannot be taken seriously as competition for "Freeze Frame"

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Incorporates Centronics Printer software (user port) with CBM graphics capability. See "Commodore Connection" for suitable lead.

A RESET switch is fitted. (We have found this to be "unstoppable", it also preserves the tape buffer.)

NO MEMORY IS USED by this cartridge. It is totally "transparent" and uses special switching techniques.

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Syntron Digidrum for the Commodore 64

by Phil Campbell

The Syntron DIGIDRUM Drum synthesiser is an amazing little cartridge which, together with the supplied software, transforms your Commodore 64 into a fully programmable drum kit. The system is capable of producing an endless array of rhythms and song patterns, as well as allowing the modification of each individual drum sound.

It is claimed that the system produces 'studio-level' music - in fact, the Syntron is already being used in many studios for demo and production tapes, and several bands are using the system live on stage. All I can say is that I'd hate to have to rely on my 1541 to load a song file in front of two thousand people! Definitely a prospect for thrill seekers!

The system itself, however, is obviously capable of producing any drum pattern you desire, with a sound quality which seems largely dependent on the amplifier you feed the signal into.

The Hardware

The Syntron consists of a cartridge which plugs into the USER PORT rather than the usual cartridge socket on the back of the computer. Accordingly, an edge connector socket protrudes from the front of the unit. The cartridge contains all the hardware (numerous ICs) required to synthesise the complex drum sounds, while the host computer merely sends control parameter and timing information to the unit. At the back are two sockets: a female 'phono' socket for audio output, and an RCA socket for

trigger pulse output to other equipment.

The audio output can be connected directly to a P.A. system, guitar amplifier, hi-fi system, or even your 1701 video monitor. Naturally, the smaller the speaker you use the more 'tinny' your output will sound. Note that the very fast attack rate of some of the sounds will be of dubious benefit to your speakers if you have the volume turned up too high!

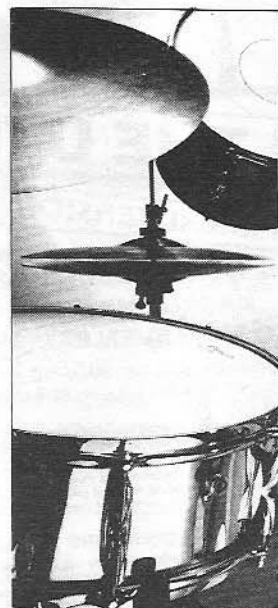
Output from the Trigger socket can be used to co-ordinate the Digidrum with other computers and synthesizers, allowing them to stay 'in beat' with the programmed rhythm patterns.

The Software

The software provided with the Digidrum unit provides an almost inexhaustible array of options. A number of preprogrammed rhythms are available, together with a variety of drum and percussion sounds.

Programming your own patterns is a simple matter ... well, simple if you just want to experiment. I guess it would take some time to enter a song exactly how you wanted it, especially if you are not a drummer. However, it's pretty good fun, because you can actually hear the sounds as you enter them from the keyboard. The 'C' key plays a crash cymbal, 'O' produces an open Hihat, 'H' a closed Hihat, 'D' a small tom, 'S' a snare drum, 'G' a grand tom, 'F' a floor tom and 'B' a Bass drum.

In programming mode, pressing the keys both registers a symbol on the screen display and plays the sound. I wish I could think of a funny line about cymbal symbols. I'm sure there's a laugh in it somewhere.



When you finish entering your pattern, depressing the F7 key plays it back at any of 64 preset tempos. A set of 50 patterns can be built up in this way, and then combined in sequence to play songs. Each song can contain up to 100 sequence steps, each one repeated up to 99 times: for example, a song could be built up of pattern 2 once, pattern 4 three times, then pattern 15 once to end. This would be entered in song mode as P2,1 (RETURN): P4,3 (RETURN): P15,1 (RETURN). Easy.

Loading Sounds

One of the most appealing features of the unit is the ability to load entirely different sets of instrument sounds.

A variety of sounds are included on the disk, including Syndrums, congas, and a set of 8 'glass' instruments which



MUSIC

have quite a unique sound. Also included on the disk is a sound editing program which allows the modification of the Attack, Decay, Sustain and Release characteristics of any of the drum sounds. Thus, an effectively infinite array of sounds can be created.

Naturally, you can save any of your own sounds on disk, as well as your songs and rhythm patterns.

Conclusion

The Syntron DIGIDRUM is lots of fun, and certainly appears to have the flexibility to be used in both recording and performance situations.

My only reservation is that I have not heard what it sounds like played through

a decent PA system: through my cassette player's speakers I have so far only managed to obtain a fair impersonation of a Casiotone! However, it would be most unfair to expect anything better from my poor little speakers.

My main - in fact my only - criticism of the package is the ratty little "manual". Not only is it written in a strange Dutch dialect of English, but it is also crammed onto a single piece of paper folded into 20 little sections, each of which represents a 'page'. You just about need a roadmap to tell you where to go next. A system like this deserves (in fact demands) a better effort at documentation. However, don't be put off ... all the information you need is on there somewhere. It's just a matter of finding it!

The Syntron Digidrum retails for \$189.85, and is distributed exclusively by The Bit Shop, P.O. Box 28, Earlwood, NSW. For further information phone (02) 579 1549.

Available in the very near future for Digidrum:

- * Extra soundsets nos 1, 2 and 3
- * Cassette software
- * MIDI sound unit
- * Digi sampler - Hardware/software for recording and sound sets.
- * Digi Pad - drum kit for real time control of Digidrum.

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The Tron Digidrum comes complete with a hardware user port connector, audio out, trigger out, easy to follow user's guide, software with the first eight digital samples including Crash Cymbal, Snare Drum, Bass Drum, Floor Tom, Hi Tom, Med Tom, Open Hi Hat, Closed Hi Hat and programming functions. The software contains a complete set of demonstration patterns and songs - All this for

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There is already a new sound sample set in preparation which will contain over 40 new samples including Syn Drums, Latin percussion, Hand Claps and many more for only £16.50! All purchasers of the Syntron Digidrum will receive details of the new sound samples as they become

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4th Dimension

4th Dimension is used for splitting the area of memory used for BASIC programming (\$0801 to \$9FFF) into four equal parts each containing 9724 bytes for BASIC programs.

4th Dimension is useful for many purposes apart from allowing four small BASIC programs to reside in memory at the same time. The four blocks of memory are easily and quickly selected by using the four function keys. The border will change to the appropriate color indicating that the pointers have been changed. The colors are - F1=red, F3=cyan, F5=purple, F7=green. The text screen is however not updated. This can be a problem, but at the same time does have some possibilities in the field of limited multi-tasking.

The program has error checking for each line of data so as to allow easy entry. There are a couple of points that need to be known about the program to avoid disappointment. First using [stop/restore] should be avoided unless in dire straits, as this will reset all the pointers and any programs in memory will be lost, though 4th Dimension can be called back with SYS 49152. Secondly you must save the program before you run it, as the program is newwed when you run it.

```

1000 REM*****
1001 REM*
1002 REM*      4TH  DIMENSION
1003 REM*
1004 REM*      WRITTEN  BY  KYLE ARNOLD
1005 REM*
1006 REM*      1986
1007 REM*
1008 REM*****
1009 :
1010 PRINT:PRINT:PRINT"STAND BY."
2000 FORL=0TO32:GX=0:FORD=0TO15:READA:GX=GX+A:POKE49151+L*16+D,A:NEXTD
2010 READA:IFAC>GXTHENPRINT"ERROR IN LINE";2040+(L*10):STOP
2020 NEXTL:SYS49152:END
2040 DATA170,76,64,192,2,255,255,255,255,1,8,3,8,3,8,3,1558
2050 DATA8,255,45,255,45,255,45,1,46,3,46,3,46,3,46,255,1357
2060 DATA83,255,83,255,83,1,84,2,84,3,84,3,84,255,121,255,1735
2070 DATA121,255,121,1,122,3,122,3,122,3,122,255,159,255,159,255,2078
2080 DATA159,169,2,141,32,208,169,1,141,33,208,169,147,32,210,255,2076
2090 DATA169,0,141,3,192,32,90,193,174,3,192,189,8,192,149,43,1770
2100 DATA232,224,14,208,246,32,110,192,96,76,132,192,76,49,234,120,2233
2110 DATA169,104,141,20,3,169,192,141,21,3,88,96,76,35,193,234,1685
2120 DATA234,234,234,234,234,173,197,0,201,4,240,15,201,5,240,56,2502
2130 DATA201,6,240,98,201,3,240,228,76,107,192,169,2,141,32,208,2144
2140 DATA172,3,192,162,0,181,43,153,8,192,232,200,224,14,208,245,2229
2150 DATA160,0,162,0,189,8,192,153,43,0,200,232,192,14,208,244,1997
2160 DATA169,0,141,3,192,76,107,192,172,3,192,169,3,141,32,208,1800
2170 DATA162,0,189,43,0,153,8,192,232,200,224,14,208,244,160,0,2029
2180 DATA162,14,189,8,192,153,43,0,200,232,192,14,208,244,169,14,2034
2190 DATA141,3,192,76,107,192,172,3,192,169,4,141,32,208,162,0,1794
2200 DATA189,43,0,153,8,192,232,200,224,14,208,244,160,0,162,28,2057
2210 DATA189,8,192,153,43,0,200,232,192,14,208,244,169,28,141,3,2016
2220 DATA192,76,107,192,172,3,192,169,5,141,32,208,162,0,189,43,1883
2230 DATA0,153,8,192,232,200,224,14,208,244,160,0,162,42,189,8,2036
2240 DATA192,153,43,0,200,232,192,14,208,244,169,42,141,3,192,76,2101
2250 DATA107,192,0,0,0,0,0,0,0,0,0,169,6,141,134,2,751
2260 DATA169,0,141,0,8,141,1,8,141,2,8,141,0,46,141,1,948
2270 DATA46,141,2,46,141,0,84,141,1,84,141,2,84,141,0,122,1176
2280 DATA141,1,122,141,2,122,162,0,189,160,193,32,210,255,232,224,2186
2290 DATA96,208,245,96,255,255,255,255,255,255,255,255,255,255,255,255,3705
2300 DATA255,13,13,32,32,32,32,32,32,32,32,32,52,32,84,72,809
2310 DATA32,32,68,73,77,69,78,83,73,79,78,46,32,32,32,32,916
2320 DATA32,13,13,32,87,82,73,84,84,69,78,32,66,89,32,75,941
2330 DATA89,76,69,32,65,82,78,79,76,68,32,32,32,49,57,56,972
2340 DATA54,13,13,32,32,32,32,32,32,32,32,32,52,42,57,55,574
2350 DATA50,52,32,66,89,84,69,83,32,70,82,69,69,46,46,13,952
2360 DATA13,255,255,255,255,255,255,255,255,255,255,255,255,255,255,255,3838

```

Operating an Amiga

Many still gaze in bewilderment at the workings of the Commodore Amiga. To help settle your nerves a little, the company behind the making provided us with this step by step breakdown of the operating system.

Central processing unit

The heart of Amiga is the Motorola 68000 microprocessor, a 32/16 chip which gives 32 bit internal data paths and registers and 16 bit external data bus.

It has 192K of ROM containing multitasking, graphics, sound and animation support routines.

To increase the versatility, efficiency and speed of Amiga three custom designed integrated chips have been added. These chips take over certain aspects of the work of the CPU, freeing it from many mundane chores so that Amiga can run programs faster and increase the computing time available for activities such as multitasking.

The result is that Amiga can pull a program off a disc, play four part sound, and show high resolution colour graphics on the screen while calculating a spreadsheet in about the same time as an IBM PC.

Memory capacity

In a standard configuration Amiga comes equipped with 256K of RAM. Another 256K can be added by plugging in a small module that slots into the front of the machine. For more powerful applications this 512K can be externally expandable to 8.5 megabytes. Since

Amiga has an open architecture, additional memory boards can easily be attached.

Built-in to Amiga is a single 3 1/2 inch micro floppy disc drive which is double sided so that data can be packed on both sides, to a maximum capacity of 880K per disc.

Amiga will accept a second external drive, either 3 1/2 or a standard 5 1/4 inch floppy disc to suit users' existing software.

Multitasking

Amiga is designed from the inside out to be multitasking, with the ability to run

two or more programs at the same time, as well as the ability to switch between programs when required.

This gives a number of benefits to the user: enabling them to process more work, while relieving them of the tedium of waiting for the printer to work its way through the document; allows music to be played through two separate channels (stereo) whilst a graphic illustration of the notes being played is shown on the screen and the computer retrieves the next section of music from storage; or lets the user edit a document, while a second program requests access to a remote data base via the built-in serial communications channel.

Multitasking is also an important facility for the applications programmer writing a sophisticated program and needing the ability to simultaneously run parallel tasks of less importance. Consequently the software can run faster, concentrating on tasks that are currently of main interest to the user.

Multiple windows can be open and operational on Amiga's screen simultaneously



Simple to use

For all its power, Amiga is a compact machine that is easy to set up and use. It is only 11cm x 4.5cm x 33.4cm and weighs a little under 13 pounds. With the detachable keyboard out and the optional colour monitor on top, the profile of Amiga is like a scaled down IBM PC.

Amiga's keyboard, which is detachable from the main unit, has 89 keys, including ten function keys, and a numeric keypad.

The keyboard has several modifier keys which are helpful when running certain applications such as word processing. The keyboard also has a HELP key and four arrow cursor keys which are clustered beside the right SHIFT key.

Setting up Amiga for work is not difficult: the mouse plugs in the side; and the keyboard, power and monitor plug into the back. With the exception of the mouse port, all the connectors are marked by small pictures which are self explanatory.

In addition to the mouse, Amiga can also handle light pens, graphic tables, joysticks or trackballs to suit the user.

Amiga also has RS-232C serial and Centronics-compatible interface ports.

To use Amiga, simply flick the power switch and insert a kick-start disc which gets the computer up and running.

Workbench

There are two basic operating modes: Workbench and Command Line interface. Workbench is a special program that lets the user interact with the computer through the use of windows, icons and menus.

Workbench, as the name implies, is the user's working area and can be either visible to the user or not. It uses a series of icons to represent application programs and several different files. The user simply inserts the Workbench disc, which comes with Amiga, into the machine. A disc icon appears in the upper right hand corner to indicate the disc is in place and a window opens on the screen which holds all the files currently on the Workbench disc.

Intuition

The user interface that gives easy access to the power of the Amiga system is called Intuition.

Intuition uses a two button mouse to activate command menus and to select from items listed on the menus.

Unlike other computers, Amiga lets the user dispense with the mouse entirely eg. Textcraft, the entry level WP program, lets the user move the cursor either with the mouse or Amiga's cursor keys.

AmigaDOS

Amiga's operating system, AmigaDOS, lets the user set up file directories within other file directories. This helps the user separate files for easier handling.

It also prioritises the tasks that it is asked to perform. For example, printing could be set as a low priority while a spreadsheet is being worked on. This ensures that the microprocessor and support electronics won't be unduly stressed.

In addition to its advanced capabilities for running serious business programs, Amiga has outstanding music and graphics abilities.

Graphics capabilities

Amiga has five graphic modes: at its lowest resolution Amiga can display 32 colours at once, out of a palette of 4,096 colours, with a resolution of up to 320 x 200 pixels. In high resolution colour mode it is 640 x 400 pixels (maximum 16 colours). A choice of 16 or 32 colours is available on each line and the colour choice can be changed every line, which allows the screen to show all 4,096 colours simultaneously.

A display co-processor allows line-to-line change of colour palette and the splitting of the screen into multiple horizontal slices each with different video resolutions.

Amiga has re-useable 16 bit wide sprites with 15 different colour choices per sprite pixel element, a sprite being an easily moveable graphics object that is independent of the background.

Amiga's blitter, a bit map image manipulator, can copy large pieces of memory and means that the computer can draw a complex shape, fill it with colour and then move it to a different place on the screen while changing its shape and all in a fraction of a second.

To take full advantage of Amiga's outstanding colour facilities an analog RGB monitor should be used.

An analog monitor lets more colours be seen at once and unlike a digital monitor, has no limitation on the number of colours it can reproduce.

Sound capabilities

Amiga has a mini music and speech synthesiser built inside with four individually controllable channels and it can reproduce any sound imaginable. Each channel can reproduce almost any musical instrument: trumpet; piano; banjo and so on. The four channels are routed to two separate outputs, for stereo, and with music composition software Amiga can play realistic four part harmonies.

Alternatively it can have musical instruments coming out of three channels and a voice out of the fourth.

Two phono plugs allows Amiga's sound generating circuits to be connected to a hi-fi system.

Voice synthesiser

Also bundled to Amiga is a simple speech-to-text synthesiser program. Simply type in the words and the computer converts them into speech, the speed and tone of which can be altered to mimic a child, an old man, or whoever.

Menu viewing

To allow the user to work on a number of projects at once, Amiga has pull down menus, which are listed at the top of the screen, into view.

Another press of the mouse button and commands within the menu can be selected. Because of the way that Amiga menus are set up, users can select several in rapid succession without having to get the menu back in view each time.

The windows have various gadgets

HARDWARE REPORT

which allow the user to move, re-size and manipulate them. Windows can be overlapped, but still be visible, so that the user can work on one project while keeping an eye on the item or cross referencing with another document. A flick with the mouse reshuffles the window to bring a new one to the top as required, just like shuffling papers or items on a desk.

The design of Amiga is such that even though there is one expansion connector the various products can hook up to one another, like links in a chain.

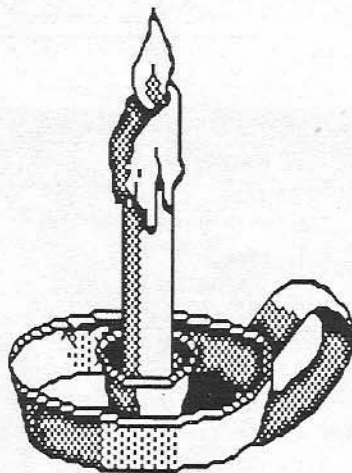
Two unusual facilities

Of the many peripherals that will be available for Amiga, two particularly interesting ones are the Colour Video Digitiser and the Gen-Lock.

The Colour Video Digitiser allows a home video camera to be hooked up to the computer and any scene captured on the Amiga's screen. The image is digitised in full colour, with all the proper shadows, and can be pasted into the WP documents or edited with a painting program.

The Gen-Lock allows the Amiga's output to be interfaced with a VCR, camera or other video device.

As an added benefit Amiga can run in MS-DOS emulation mode. This is entirely software driven and lets Amigas run about 75 per cent of all IBM PC software such as Lotus 1-2-3.



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Final Cartridge

Would the last contestant please step forward...? Another fast loader with a punch that others just can't match. *Andrew Farrell* squeezed this test drive in.

Of all the various speed up devices around for the infamously slow 1541, the Final Cartridge is one of the fastest. It is also one of the easiest to install, consisting simply of the cartridge itself - with no dangling wires to connect to obscure I.C. legs on your beloved machine's internals.

However, its true power extends far beyond the process of making your disk drive work a little harder. In fact the Final Cartridge is more like a circus arena brimming with acts.

Centronics printer driver, function keys, BASIC 4.0 disk commands, a BASIC toolkit, RESET switch, hi-res printer dumps, turbo disk and tape operation and a machine language monitor. It was a miracle that they had room to fit all that in one convenient package.

Yet there is one more added bonus for BASIC programmers. It is true that the Commodore 64 is indeed a 64K machine. However the top 24K is lost beneath the BASIC and KERNEL ROMS, both essential parts of the computer's personality. By switching these ROMS out when they are not needed it is possible to access this extra RAM. Many games use this space for storing program data such as graphics and music.

The Final Cartridge is powerful enough to allow this extra memory to be also available to BASIC. This allows plenty of space for those extra huge programs that you will no doubt be writing once you get your very own cartridge.

For centronics printer owners, the cartridge will drive a unit connected to the USER port using the correct cable. These normally cost around the \$60 mark, which is about \$70-\$80 cheaper than purchasing a dedicated interface to do the trick. According to the manual you may then print high resolution screen dumps, text screen dumps and program listings complete with all the usual Commodore graphics symbols.

Some of the keys on the keyboard have been redefined to provide more useful functions. CTRL will pause a listing until you release it. CTRL HOME moves the cursor to the bottom left hand corner of the screen. CTRL DEL will erase everything to the right of the cursor on the same line. The function keys also provide the following commands:

Features

TOOLKIT

The Toolkit provides the following, all of which work as claimed:

AUTO: Gives line number in BASIC programming. Eg: 100,10 to start at 100 with increments of 10.

DEL: Deletes a line or block of lines as specified. Eg: DEL 100-250 deletes all lines between the given parameters.

OLD: Recovers a program after a reset on NEW command.

RENUM: Renumbers a BASIC program, including goto's and gosub's. (RENUM 10,5 starts at 10 with an increment of 5).

FIND: Searches for lines containing the given string, word or command.

IE: FIND "TEST" lists every line containing the word "TEST".

FIND a\$ lists every line containing the variable a\$.

HELP: Lists a BASIC line which contains a mistake.

APPEND: As DAPPEND but for cassette.

DOS COMMANDS

CATALOG: Lists Directory to Screen without affecting program in memory.

DAPPEND: Merges BASIC programs from Disk.

DISK: Reads the error channel.

DLOAD: Turbo loads program 5 times faster from Disk.

DSAVE: Saves program 5 times faster to Disk.

DVERIFY: Verifies a program in memory with that on Disk.

Other Commands

LIST: Lists BASIC program and removes List protection if any.

MONITOR: Switches on ML Monitor.

OFF: Switches off all functions of FINAL CARTRIDGE.

CTRL/HOME: Puts the Cursor in bottom left corner of Screen.

CTRL/DEL: Deletes everything after the Cursor on the same line.

Note: Commands can be abbreviated in normal fashion. Eg: L shift O LOAD.

FUNCTION KEYS

F1: LIST F2: MONITOR

F3: RUN F4: OFF

F5: DLOAD F6: DSAVE

F7: CATALOG F8: Disk Command

Eg: F8 [return] reads error channel.

F8 [N:name, id] + [return] will format Disk.

Using the Function Keys you can, for example, load the Directory [F7] then cursor up to the program wanted and press [F5] to DLOAD.

- F1 LIST
- F2 MONITOR
- F3 RUN
- F4 OFF
- F5 DLOAD
- F6 DSAVE
- F7 CATALOG
- F8 DISK"

Pressing F5 on its own will LOAD the first program from disk. However, normally it is easiest if you wish to LOAD a specific program to press F7 for the directory, move up to the line containing the program name, and then press F5 to load it.

Disk operations were impressive. When compared with three other popular fast load devices, the Final Cartridge was

HARDWARE

always slightly faster in LOADING programs. A 202 block program took 23 seconds to LOAD, compared to 128 seconds without the cartridge. This represents a 5.56 times increase. Saving was a little different, with some degree of variation from some of the claims made by the advertising.

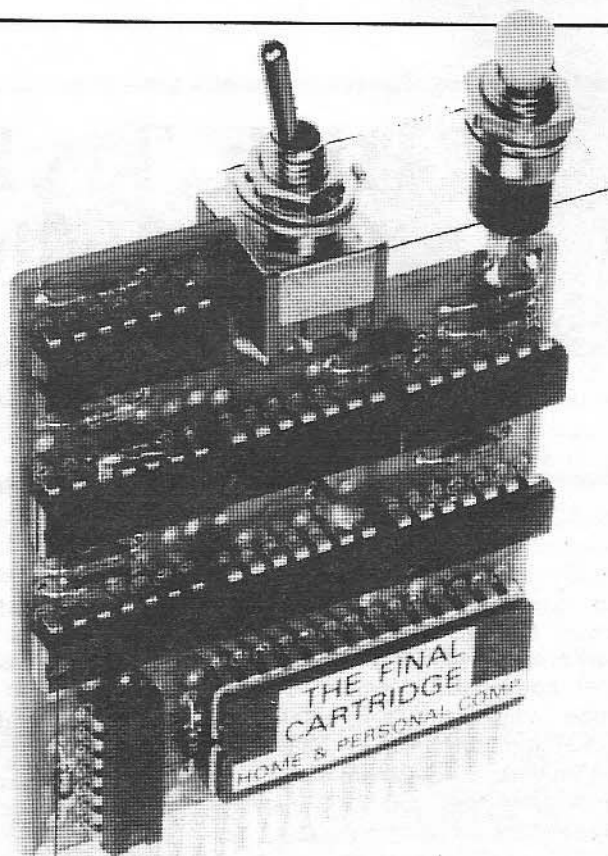
Best time for a 148 block program was 32 seconds compared to a normal SAVE of 109 seconds. This was a 3.4 times increase, still about the same as most of its competitors. Some commercial software wouldn't LOAD, which can be expected with most TURBO operating systems. A switch on the back of the cartridge allows the system to be switched off.

Tested on the Commodore 128D, we found it was necessary to hold down the Commodore key for the computer to power up into 64 mode. The cartridge would not automatically control selection of modes, although worked fine in all other respects.

A machine code monitor is essential for serious programmers. Having done a fair amount of machine code, I could say I am pleased with the monitor built into this unit. It is slightly similar to HESMON in a few respects. Displays may be scrolled in both directions, and single line assembling is catered for.

Overall, the Final Cartridge is a very worth while addition to your computer. It worked to our expectations, and was obviously the result of some well thought out design work. Documentation supplied was of a non-technical nature and concentrated on what the cartridge does, without too much background information. More than ample for most needs. Price and availability does vary, but it is an investment you won't regret.

Distributed by Pactronics, (02) 630 7881.



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High Tech Silicon Valley A Window to the Future

by Ken Longshaw

To the uninitiated Silicon Valley is yet another nonsensical Yankee term to describe Walt Disney's latest tourist attraction/money earner. However, Silicon Valley is now the centre of a vast universe, the pivotal point of anyone who is serious about making it in the computer world.

From your average 14-year-old arcade addict's bedroom, to the stockmarket halls of fame, to the Porsche boardrooms of West Germany, people are taking notice of the latest phenomenons in the Computer Race Age.

In a microcosm that has spawned 4,000 new companies in the last 20-30 years, each grossing five million to five billion in sales a year, there lurked yet one more unturned stone. And, you guessed it, someone was there who felt obliged to exploit the untapped resource.

This time, for our immense delight someone has, yes, I'll come to the point shortly!

Written a book! About the ins and outs of Silicon Valley, perhaps the most astounding and fascinating high tech industrial microcivilization ever to have emerged from the dust of the Industrial Revolution.

Gene Bylinsky is a well known scientific/technological/medical reporter. (My Who's Who of the USA said so anyway.) He has graced the pages of such renowned and revered magazines as *The New York Times Magazine*, *Wall Street Journal*, *Science Year*, *OMNI*, *Science Digest*, *The Reporter*.

His coverage has ranged from gene-splicing to semi-conduction chips,

space stations to brain hormones; Gene pioneered reporting on Silicon Valley, and has won 17 awards, none for golf!

Gene's book landed in my lap with a loud bang. It's big. But so is the industry that spawned it.

With a superb photo essay from front to back by Charles O'Rear, a famous taker of snapshots (13 major articles for *National Geographic* to his credit) and obscure help from Mr L. Bender, a bald logo designer, we are shown a marvellous world of High Tech.

From glossies of an insect's brain, to an electron microscope's view of the atomic structure of a semiconductor. From Persian rug look-alikes of photo masks for LIC's to the clubs where a million in the keycard is not enough. We are regaled with success story after success story. The new 20 year old millionaires and the has-beens are all there.

While not offering a scientific textbook, Bylinsky displays a remarkable ability to almost lose you in the high tech jargon and then explain it all with a simplicity that evidences a profound depth of understanding of the world he orbits.

Bylinsky doesn't dwell only on the dizzy world of three figure IQ innovation but ventures into the mundane, the traffic jams, the housing shortages, supermarkets and grass roots of the different people who live, work, make money and lose money in Silicon Valley.

A two page spread reminiscent of a Vaucluse aerial shot, complete with three acre house, private pool, tennis court, and Porsches in every yard, is backed by a sample (on two pages) of some "Westy" street with Geminis and no street lights. Billboards, crowds at the footy and traffic

jams, all make up a well rounded out pictorial. The overall effect is awe inspiring.

The spinoffs from the original mainline computer and silicon chip industries by Hewlett Packard in 1937 and various associates (of radar fame) have been never ending. Bylinsky examines the major items.

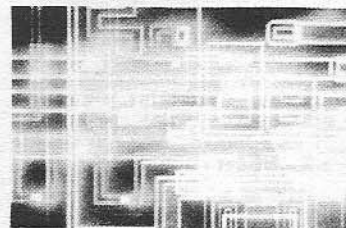
Lasers, their place in industry, medicine, defence, sewing eyeballs and welding scar tissue on endometriosis victims. The satellite communications for the space junkies. A picture from The Last Star Fighter fully photographed by a computer. The model was "flown" through awesome imagery created on a graphics computer.

High Tech a Window to the Future is an industrial spy's dream come true. Page after page of detailed logic chips, RAM chips, mega pals laid out there in bright five colour print. The latest in semi conductor technology, in etching, in photographic reproduction and imagery are discussed and pictured.

Well bound in true high tech fashion, the book can take a proud place on any computer addict's coffee table. A sample of the industry that we get a prologued ogle at is encased in plastic right there on the front cover. Yes, an AM8502 cathode ray tube controller, state of the art circuit by Advanced Micro Devices all 100 000 transistors worth. The one used in your new video screen.

So if you want to gaze in awe at an insect's cerebellum, gasp at the internal structure of a crystal, ooh-ah at a ceramic boat sailing into a blast furnace ferrying wafers, or get dizzy deciphering logic Integrated Circuit Photo Masks (say that after a few daiquiris) this book is for you.

Retailing for a modest \$39.95 and distributed by Weldon-Hardie Pty Ltd, it is a true investment. A must for anyone who takes oneupmanship seriously.



Freeze Frame

by Andrew Farrell

From the icy depths of the arctic arrived Isepic, and now for your entertainment ladies and gentlemen, please welcome, yours and mine, equally as cold, more effective than a chain saw at 5.30 in the morning, Freeze Frame!

When you need a simple quick way to back up your software, it looks like Freeze Frame would have to be a sure contender. In sheer simplicity and functionality alone it out-performs most other backup methods by leaps and bounds.

Consisting of no more than a single cartridge, with a small momentary switch mounted on its hindquarter, the Freeze Frame is ready to use. The backup method used has been around in the computer world for some time. It involves taking a snapshot of the computer's memory, saving the whole show to disk, and in this case adding a turbo loader to get it all back in good time.

With the program in question loaded

up on your machine, you press the switch on the Freeze Frame cartridge and then a small menu will appear amidst a psychedelic background of colours. You may then save to disk, tape or save to tape with an optional turbo tape loader added. The disk turbo is included regardless.

Some difficulty was experienced initially in getting the unit to power up reliably, however an updated version solved that problem. As far as Freeze Frame's ability to back up software goes, the makers claim a success rate of around 99%. At the time of writing this remained to be proved, although a small selection of programs in the office seemed only too happy to be copied.

It should be noted that this device is entirely legal, and that you are well within the bounds of the law to make a backup copy of any program for archival purposes. However, distributing copied software is somewhat questionable. Selling it is absolute piracy, and I could in no way condone the use of this or any similar product for such a purpose.

It is as much the responsibility of you the discerning buyer to ensure that you only purchase legal copies of programs as it is for the dealer who sells them.

Documentation included with the cartridge is more than adequate, even if it is only a small four page leaflet. The instructions are clear and concise, explaining any potential anomalies than may be encountered.

Hints for use:

Some long programs will not freeze using return reset, e.g. The Hobbit and Way of the Exploding Fist. You must reset using U.

For programs that do not auto run, try typing SYS 64738 or Run:

Some programs are best framed at the end just before returning to the start screen.

Your Freeze Frame may be purchased from most computer stores or through Jensen Electronics Pty Ltd, (08) 269 4744.

THE
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C64»128**



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Rap Back Rap

C128 business software

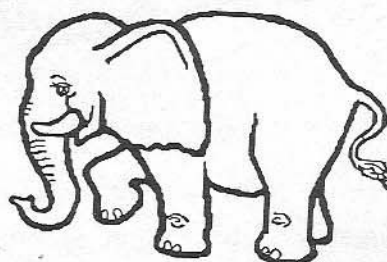
For those who haven't noticed, the Commodore 128 is being advertised as suitable for both the home user and small businesses, however I would like to point out that the software which prevails is not serious small business software. What software there is seems clumsy and time wasting.

I suggest to software developers that most small businesses require an Age Trial Balance with an ability to give a total list of transactions (individual customer) or visit history, and with the ability to select only current debits, and the ability to print our own invoice style.

It seems that much software requires double entry of data so that both mailing and invoice balancing can take place, or the clumsy collection of an address and inserting it into an account, whereas it would be nice if addresses could be placed directly into an invoice and accessible without having to wade through awkward sequences or use abstract keys which a receptionist would need considerable training to follow up.

Trevor B McGowan
Margaret River WA

RB: Such a system may not be out of the realms of existence. Try giving Pittwater Distributors a call on (02) 981 3014. - Andrew



Koronis Rift

I have recently seen a letter in the Rap Back section, Glen Murphy's letter. I have the same trouble but with *Koronis Rift*, every time I reach the fourth rift I get killed and it is rather FRUSTRATING because I have to load it again which takes about 100 blocks, so like Glen could you please tell me which pokes to put in the computer so I am INVULNERABLE, INVINCIBLE, INDESTRUCTIBLE.

Yours untidily
(sorry but I'm
watching
the wrestling)
Michael Allworth
Mascot NSW

RB: OK, so you're watching the wrestling, how do you expect to get a half decent score. All those POKES are coming up real soon, so hang in there!

Dataform Race File

I am writing in the hope that you can advise me as to where I may be able to purchase a particular software program for the Commodore 64.

The program is a database called *Dataform Race File* and I believe it was written by a Bevan Potter in July 1983.

I have approached most of the Commodore software retail outlets in Melbourne to no avail and would appreciate any help you could give me to facilitate the purchase of this program.

J.P. Fahey
Moonee Ponds Vic

RB: Mmmmm.... that's a tricky one. Anyone with inside info listening?

128 Problems

I have the new Commodore 128 and have been having problems with it lately. It has been jumping into the monitor program for no apparent reason when programming and is very annoying as I continually have to start again. Have you heard of this problem before?

Also, I have been reading a few American magazines lately and looking at the reviews on laser disks. Are they available in Australia and about how much would one cost for the 128?

By the way, your magazine is the best I have read yet. Most have a lot of junk but yours is just right.

Evan Mackenzie
Coffs Harbour

RB: Problem could be due to some bad RAM or ROM somewhere down the line. If it's still playing up, get it looked at. This is not a common hassle. Regarding laser disks, I don't think you'll see one connected to a 128 for some time. Some form of interface or controller would be required. Such a device does exist for the 64, allowing it to control the laser disk's functions. However information transfer is not possible, and the above mentioned interface is not readily available.

Back Rap Back

Machine code

Could you please send me a program or information on how to use Machine code on a C64. Machine code is useless without knowing how to be able to make the computer understand what you're writing. I think this is the same with sprites and graphics. Thanks a lot!

Nicholas Vogt
Narellan NSW

P.S. Do you know anything about the new *Lord of the Rings* game? It sounds fabulous.

RB: For machine code you'll need some sort of machine language monitor or assembler and a good book on 6502 machine language. The C64 reference guide is also an essential. Your local dealer should be able to help out. With regard to *Lord of the Rings*, have a PEEK in RAM RUMBLINGS. - **Andrew**

Little Computer Person

Recently I purchased "A Little Computer Person" and I have a few problems with him. How do I get him to:

1. take a shower
2. go to bed
3. open his cabinets

J. Mark Hunter

Some people have talked of 'playing card wars' with him and of getting a flat mate with their L.C.P.

Have I got a dumb L.C.P. or am I not communicating with him properly? How can I get him to cooperate?

Please reply soon as he is beginning to smell.

David Brownell
Traralgon Vic

RB: How do I get my computer person to appear! - **Andrew**

Who cares? - **Ken**

O.K guys, cool it... how about one of you LCP experts let us know how to play this game? - **Mark**

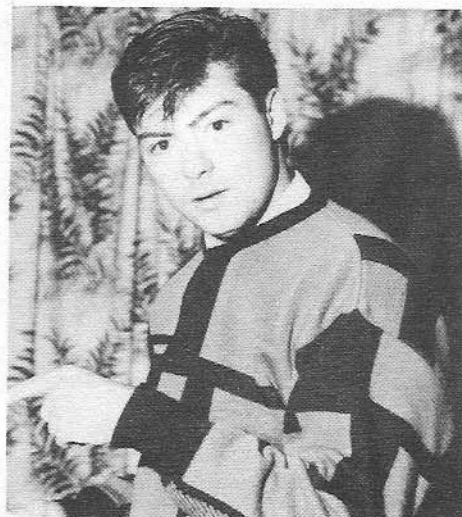
Riteman C+ printer

Dear Mr Blyth,

I read with interest your review of the Riteman C+ printer in The Australian Commodore Review, April 86. I use a Riteman C+ with NLQ chip with *Easyscript* on a Commodore 64. As of yet I have had no success with changing print types from within *Easyscript*. I assume *Easyscript* is similar to *Superscript* that you use. I write a large number of scientific reports and the use of underlining, italics, superscript and subscript would be a great improvement to them. Would it be possible for you to write back a short note explaining how to use these functions, and then go back to NLQ mode, as I am getting very frustrated. Any help will be greatly appreciated.

R Morris
Hazelme WA

RB: Actually, we used to use *EasyScript* all the time, but now that the Amiga is out ... well, need we say. Have you tried using embedded print controls? Or set up a pause in your document, and change modes manually. - **Andrew**



Ken Longshaw

Using printers

I thought I'd jot down a few notes about using printers in reply to 'PRINT SHOP HELP' (April '86). If an XETEC interface is used then it can be set in 1528/801 emulation mode with all the switches set back towards the printer. This will fool the computer into thinking that it is a Commodore printer and *Print Shop* will work fine.

For anyone else who is frustrated by the 802 printer, try to get hold of a copy of the 1526 LOGO printer program. This allows hi-res pictures done in LOGO to be printed out (slowly though) but it will also print other hi-res pictures including *Print Shop*. All that needs to be done is to change the program name.

That is, you must add PIC! to the end of the filename. For example, if the filename is PICTURE, then change it to PICTURE.PIC!

By the way, this will also work for all those teachers out there using LOGO at school. Try putting your LOGO pictures, you know, those with the SPINSQUARE etc., through *Print Shop*. You can add some really decorative borders and the students can also put their names on them in any of the fonts *Print Shop* uses.

If anyone has any more queries about the above, I'd be happy to hear from

Rap Back Rap

them. I can be contacted at the address below or through VIATEL. Look in the Mailbox option for my number.

Keep up the good work with your mag!

Steven Roberts
41 Edinburgh Tce
Port Augusta, SA 5700.

RB: Thanks heaps for those tips, Steve.

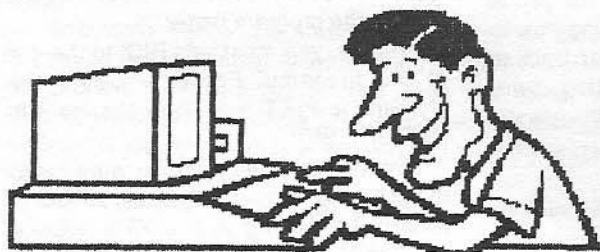


Elite

I have been hearing about the second mission in *Elite* for some months now. At the moment I am Competent. Could you tell me, please, when I can expect to be offered this mission?

R. Malzinskas
Aspendale, Victoria

RB: - *Elite* fans, step forward - Ken
You should be playing *Mercenary* - Andrew
Hey, what's the big deal, *Elite* is supercool - Mark



Do you still smile like
this after 3 hours
of typing in programs ?

Mercenary tips

Hi, we're just writing to you to compliment you on your great magazine and give your readers some *Mercenary* tips. Here are some of the objects you'll come across and of course where to drop them.

Useful armament - mechanoid armoury
Medical supplies - infirmary (aboard palyar colony craft)
Catering provisions - Kitchen (aboard palyar colony craft)
Essential 12939 (it reads Pepsi backwards) supply - conference room, colony craft
Mechanoid - interview room, palyar colony craft
Data bank - control room on colony craft
Large box - stores
Energy crystal - power room

Oh, and if you find an object called cheese go to the surface and board it, it's a very powerful ship and you can fly to the colony craft without the power booster.

There are also eight keys and a pass to collect. The pass is used to get into the base at location 3-15, but alas the pass is very, very difficult to find.

If you see a door with a skull and crossbones on it, always save your game before going through it or there could be a nasty surprise on the other end of the door, although some of these doors can be very helpful.

To finish the game you need 1,000,000 credits, and then you have to find an aerial and go to a communication room in one of the ground bases. Hint: it's in a pink-purple corridor. It will offer a ship to you at the cost of 1,000,000 credits. Buy it and then do as instructed by the machine in the room.

The ending screen is a big disappointment but it was worth finishing all the same.

There is also an easier way to finish the game, the pass has something to do with this, but I'll leave you to find that out for yourselves.

I can't wait for *Mercenary II*. I hope it's not as easy to finish as *Mercenary I*.

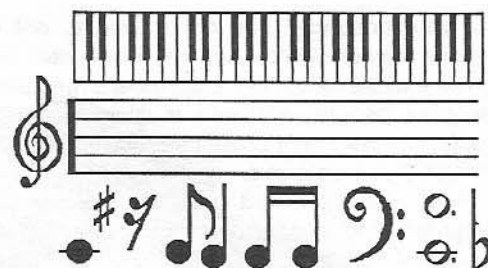
P.S. Another hint - don't shoot anyone or anything and always take the palyars' side.

P.P.S. Thanks again for a great magazine.

Chris Nelson
and Raymie Sherring
Clarinda, Victoria

RB:- A small round of applause, please!

Closing the Technology Gap



by Ric Richardson

Firstly, may I say "hello" to all you music fans out there on the Commodore.

With the support of much industry interest behind me I have been endeavouring to gain a high profile for computer music with key music personalities. Taking the home computer beyond the games barrier into the artistic worlds of music and graphic art has opened up a new area of interest.

Along the way, due to the fact that I have to talk to people of much repute, I have had to crystallize my ideas on what recent trends in computers are doing for the general public. One thing in particular stands out.

Anybody who loves music has to have two ingredients to be successful with their endeavours.

One, of course, is raw talent. You really can't get anywhere without it.

The technological advantage

But there is also another factor, that being the technological advantage. This comes from having the support of a record company or the connections to use expensive, professional, fantastic sounding musical instruments and other gear.

Let's face it, if you are a drummer and your drums sound terrible, no matter how good you are, your terrible sounding drums stop you from making any headway with your love of music. If you are an excellent guitar player but your guitar sounds terrible, you can't get ahead either.

The reverse is also true. Sometimes musicians don't have that much ability, but because of the advanced features of expensive keyboards, it is easier to produce good sounds. It is easier for you to sound good. For instance, if you have an advanced sequencer, you can work a drum machine without having to be a drummer.

To get anywhere of consequence, you really do need these things: a recording studio, some decent sounding

"Most of the advantages of a multi track recording studio are available to someone in their sunroom using a MIDI sequencer"

synthesizers, sound modules (maybe drum machines), and of late a sampling keyboard (a keyboard with which you can record sounds into a silicon chip, making digital recordings that can be triggered with the keyboard and given different characteristics to give it different pitches).

Also, you need to surround yourself with people who have a bit of experience in these areas to be really successful.

If you add that up, you are looking at a good quality sampling keyboard at perhaps \$30,000, an excellent synthesizer (maybe a Fairlight for \$90,000) and maybe a 24 track recording studio. If you add all those amounts up you will get some idea of what kind of things are being used to help a muso to sound good.

But I tell you now, that kind of technology, most of it, is becoming available now on small home computers

like your Commodore 64 and to a more elaborate degree on the Amiga.

Yes, through the wonders of MIDI we have a situation where most of the advantages of a multi track recording studio are available to someone in their sunroom using a MIDI sequencer. Even on the C64 phenomenal links of sampling time have become available.

Month by month, even day by day, we see a continual stream of synthesizers that have been chopped down to simple cost efficient sound modules ready and purpose built to suit computers geared with sequencer controlling programs.

Cost advantages

Already in previous articles I have outlined what cost advantages there are in store with the music industry, but never before have I come to realise just how versatile this new technology is. Take for instance a comment that was made to me by an excellent bass guitarist who is soon to produce a MIDI based series of modern Musaque, for the ABC. He says he has a situation now where he can do most of his recording of the basic elements of the pieces of music at home using a sequencer program with his computer, so that he can go into a very high quality recording studio using the latest technology and be able to lay down half of a record per day.

No longer do people feel threatened by the fact that sometimes it can take a week to do just one track if you use the normal recording techniques.

Some of the ideas I thought up just months ago are actually realities already.

For instance, the example above, the idea of walking into an elaborate studio

with your computer and being able to put down the majority of your musical content in a matter of hours for maybe a whole album of music, means fantastic things for everyday people. Amateur musicians are now in a position to use these advanced facilities to write and to produce their own music.

Add to this the fact that many of the new range computers and in particular most of our familiar friends are capable of not only recording using a multi track MIDI recorder, but also combining these with graphics displays to make your music live "visually".

In conclusion, I would like to outline one of the main problems that I see with the closing of the technology gap and that is education.

At the moment, the industry is only hinting at the kind of support that is possible from them. Until computer

"One of the main problems with the closing of the technology gap is education"

music and computer graphics really gain momentum as okay areas of development for the home computer, the music industry will have a retiring attitude over the whole idea.

I don't mean to sound negative because really, the interest they have shown is heart warming to say the least. They can see the potential there, but until they can see the numbers of people interested, then we will not be seeing the ancillary bits of software, such as tutorials to show you how to write music, how to use multi tracking properly, how to properly use the features of a sampling keyboard, and other things like that.

In fact, I guarantee that at least 50% of the people reading this article would not know what a sampling keyboard is, what is between an analogue or FM synthesiser. Those kinds of equipment are becoming so cheap now that they can be used as a viable tool for music making by the general public. This has all come about because of computers and there is a lot of education that needs to be done in this area.

To be completely honest, there is a drought of information on the subject and very few experts. Myself, even though I have been involved with computer music for over a year now, am far from knowing the intricacies of what is available let alone the things that will become available, from what I hear, in the next few months.

Help is at hand

In the meantime, I'd like to mention some reliable sources of information for you. They are: Steve Smith at Rose Music in Melbourne (03) 699 2388, Chris Cummings at Roland in Sydney (02) 938 3911, Ken Guntar at Ikon Distribution in Sydney (02) 692 9293, and also myself as

a last resort at Musicomp Marketing at PO Box 248, Lane Cove, NSW 2066.

If you are one of those eager musically minded computer hackers out there, I implore you to continue with your struggle. And if you are new to this field, then why not go and grab your micro from on top of your TV set, and get on the phone or write a letter and get into computer music. It is a wonderfully interesting and creative way for you to use your computer.

Go on, "Have a Go!"



COMPUTER AIDED MUSIC.....

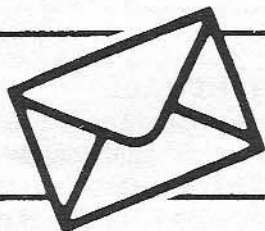
Who can help me
What do I need
What is available
Where can I get it
How do you use it



Write to us for the answers to these questions and others you may have. We also have free demo tapes of computer music if you send us a tape as well. Just send us a stamped self-addressed envelope of reasonable size and enough stamps to:

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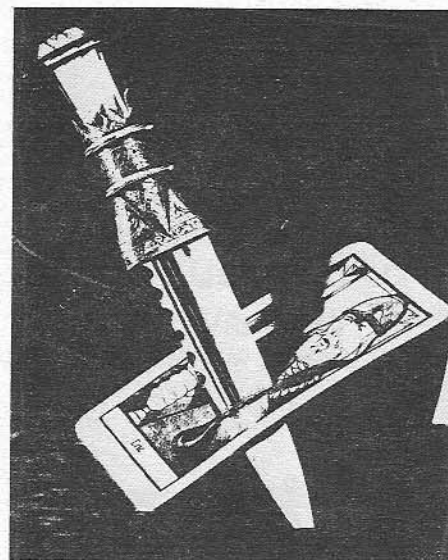
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Well, almost enough drugs.

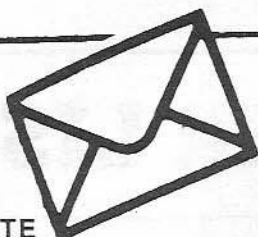
You are a prince of Amber, fighting for the throne against your eight brothers and four sisters - all of them treacherous. Yet you must gain the support of some of them if you are to succeed. And that will be as complex and tricky a game of politics as you ever hope to play. Especially without your memory.

Price: \$49.95 (D)

I have carefully looked over the entire range of software and hardware being offered in this mail order list, and believe that it is of good quality and excellent value for money.

Andrew Farrell, Editor

SATURDAY COMPUTER SERVICES



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Baseball that's so real and true to life, it's like you can reach out and touch it. The most spectacular sports simulation you will ever play. See this issue for full review. \$29.95 (C) \$34.95 (D)

LAW OF THE WEST

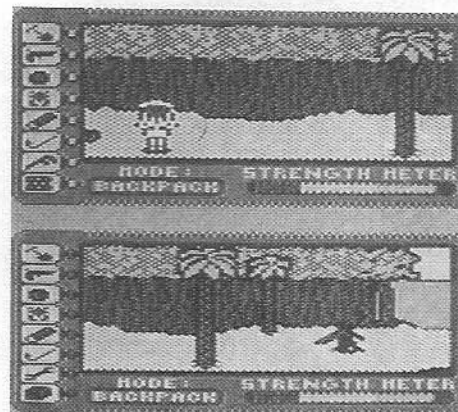
If you've ever wanted to strap on a six-shooter, pin a tin star to your chest and match the exploits of Bat Matterson or Wyatt Earp, then this is your chance. See Vol 3 No 1 for full review. \$29.95 (C) \$34.95 (D)

KENNEDY APPROACH

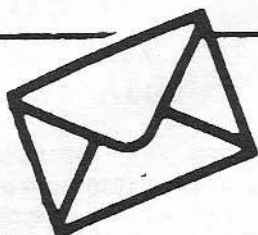
You are in charge! It's your job to get all the aircraft and passengers on the ground, or on the way safely. The first speaking simulation that allows you to communicate between pilot and control tower. See Vol 2 No 8 for full review. \$39.95 (D)

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This is the sequel to the original hit computer game "Mad Magazines official Spy vs Spy". If you've played Spy vs Spy, then don't miss this exciting real time episode. \$29.95 (C) \$34.95 (D)



SATURDAY COMPUTER SERVICES



Educational

METEOR MULTIPLICATION

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\$39.95



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ADDRESS.....
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Payment * Cheque enclosed
or * Bankcard

Add pBp -----

TOTAL

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expiry date

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signature

MESSAGE SYSTEMS UPDATE

Key to system STATUS:

Mem = Financial membership required for full access.
Reg = Free membership requiring name, phone no., etc

VA = Visitor Access to some/most functions.

LVA = VERY Limited Visitor Access.
Public = Access free to anyone.

NSW PAMS NUMBERS

System Name & Phone Number	Operational Times & Status
ABCOM-IBBS047 RIBM	24 hours
Phone: (047) 36-4165	
Sysop: Ben Sharif	Public
Ace BBS	24 hours
Phone: (02) 525 9130	
Sysop: Larry O'Keefe	
Apple Users' Group BBS	24 hours
Phone: (02) 451 6575	
Sysops: Matthew Barnes And Andrew Riley	Mem.V/A
Ausborne (Osborne) RCPM	
Phone: (02) 95 5377	24 hours
Sysop: Daniel Moran	Public
Ausborne Users Group RCPM	
Phone: (02) 568 2791	24 hours
Sysops: Milton McGlynn-Worthington	
Breside Omen	24 hours
Phone: (02) 457 8281	
Sysops: Geoff Arthur	Public
Club 80 (SYDTRUG) RTRS	
Phone: (02) 332 2494	24 hours
Sysops: Michael Cooper	Mem.V/A
Commodore 64 BBS	24 hours
Phone: (02) 664 2334	
Sysop: Graham Lee	Reg.V/A
Contact RCPM	24 hours
Phone: (02) 550 1004	
Sysop: Steven Williams	Mem.LVA
C S A C E (Atari)	24 hours
Phone: (02) 529 8249	
Sysop: Larry O'Keefe	Reg/VA
Dick Smith RIBM	24 hours
Phone: (02) 887 2276	
Sysop: Steve Engel	Public

Frontier Systems RIBM	24 hours EST
Phone: (02) 875 2606	
Sysop: John Stanton	Public
Galaxy (Apple) BBS	24 hours
Phone: (02) 875 3943	
Sysop: Chris Nelligan	Public
Goblin Sound RMAC	24 hours
Phone: (02) 660 8182	
Sysop: Ned Whitford	Reg/LVA
Info-Centre BBS	24 hours
Phone: (02) 344 9511	
Sysop: Paris Radio	Mem/VA
Keeboard TBBS	24 hours
Phone: (02) 629 2230	
Sysop: Phillip Keegan	Public
Mi Computer Club RCPM	24 hours
Phone: (02) 662 1686	
Sysop: Your Computer Mag	Mem/VA
Micro Design Lab RCPM	24 hours
Phone: (02) 663 0151	
Sysop: Steven Jolly	Public
Newcastle Microcomputer	1700 to 08.30
Club RCPM	EST Weekdays
Phone: (049) 68 5385	24 hours EST
	Weekends
Omen RTRS	Mon to Fri: 1630 to 0900
Phone: (02) 498 2495	Fri to Mon 24 hrs
Sysop: Ted Romer	Reg/VA
Oracle TBBS	0000-1800 Est W'days
Phone: (02) 960 3641	0000-0600
Sysop: Rowan Evans	Est Weekends
Palantir C-64 BBS	24 hours
Phone: (02) 451 6576	
Sysop: Steve Sharp	Public
Prophet TBBS	24 hours
Phone: (02) 628 7030	
Sysop: Larry Lewis	Public

RCOM BBS	24 hours
Phone: (02) 667 1930	Needs RTerm Program)
Sysop: Simon Finch	SYDCOM RLOM
RUNX Unix System	24 hours
Phone: (02) 48 3831	(1200/1200)
Phone: (02) 487 1860	(1200/75)
Phone: (02) 487 2533	(300 Baud/4 lins)
Phone: (02) 487 1299	(Voice)
Sysop: Mark Webster	Mem/LVA
Scorpio C-64 BBS	24 hours
Phone: (02) 621 7487	
Sysop: Russ Morrison	Reg/VA
Sentry BBS (VIC 20)	M/F 2100-0600
Phone: (02) 428 4687	S/S 2000-0600
Sysop: Trev Roydhouse	Public
Skull Apple ABBS	24 Hours
Phone: (02) 529 8750	
Sysop: Les Ayling	Reg/VA
Sorcerer RCPM	W'ys 1800-0800
Phone: (02) 387 4439	(Ring Back)
Sysop: John Woolner	W'nds 24 Hours
*** OFF AIR ***	Mem/VA
Sydney PC User Group RIBM	24 Hours
Phone: (02) 238 9034	
Sysop: Geoff May	Reg/VA
Tesseract RCPM	24 Hours
Phone: (02) 651 1404	
Sysop: John Hastwell-Batten	Reg/VA
Texas Instruments	M/F:1900-0700
Phone: (02) 560 0926	W'nds 24 Hours
Sysop: Shane Anderson	Reg/VA
AUSTRALIAN CAPITAL TERRITORY	
Canberra IBBS	24 Hours
Phone: (062) 58 1406	
Canberra RBBS	24 Hours
Phone: (062) 88 8318	

COMMUNICATIONS

QUEENSLAND

ACEA Commodore BBS 24 Hours
(ACEA-BBS)
Phone: (07) 341 0285

Brisbane Commodore User ??
Group BBS (BGUG-BBS)
Phone: (07) 808 2125

Brisbane Experimental 24 Hours
RCPM II (BEX2-RCPM)
Phone: (07) 395 1809

Brisbane Microbee User 24 Hours
Group RCPM (BMUG-RCPM)
Phone: (07) 38 4833

Cairns & District IBBS 1800-0800 W'ds
(CAD-IBBS) 24 Hours W'nds
Phone: (070) 51 3582

Colour Computer Link 24 Hours
(Cocolink)
Phone: (075) 32 6340

Competron IBBS 1700-0800 W'ds
Phone: (07) 52 9498 24 Hours W'nds

Hi-Tech CBBS (HTC-BBS) 24 Hours
Phone: (07) 38 6872

Software Tools RCPM 24 Hours
Phone: (07) 378 9530

TI BUG BBS 9pm-6am W'ds
Phone: (07) 263 6161

Tomorrowland Direct 24 Hours
(BRIS-TLD)
Phone: (07) 394 2300

VICTORIA

AM-NET BBS (AMNET-BBS) 24 Hours
Phone: (03) 366 7055

Basic User Group of Melb.
(BUGM) RCPM
Phone: (03) 500 0562

Computer Galore BBS 24 Hours
Phone: (03) 561 8479

East Ringwood RCPM 1600-0000
Phone: (03) 870 4623 W'days

Gippsland RCPM 24 Hours
Phone: (051) 34 1563

Hisoft BBS 24 Hours
Phone: (03) 799 2001

Mail-Bus 24 Hours
Phone: (051) 27 7245

Melbourne Microbee User 24 Hours
Group RCPM (MMUG-RCPM)
Phone: (03) 873 5734

Melbourne Micro Computer 24 Hours
Club CBBS
Phone: (03) 762 5088

Micropro Computers RCPM 24 Hours
(MICROP-RCPM)
Phone: (03) 568 8180

Omen IV RTRS 24 Hours
Phone: (03) 846 4034

PC Connection BBS 2100-1800 W'ds
Phone: (03) 528 3750 24 Hours W'end

Sorcerer Computer Users 24 Hours
ASSOC. CBBS
Phone: (03) 434 3529

Tardis RCPM 1800-0900 W'ds
Phone: (03) 67 7760 24 Hours W'end

TASMANIA

MS-RBBS RTRS 24 Hours
Phone: (003) 34 0911
Sysop: Mike Scott

SOUTH AUSTRALIA

Adelaide Micro User Grp 1000-2200
BBS W'ends &
Phone: (08) 271 2043 Holidays Only

Computer Ventures BBS 24 Hours
Phone: (08) 255 9146

Electronic Oracle IBBS 24 Hours
(EO-IBBS)
Phone: (08) 260 6686

Multiple BBS (MULTI-BBS) 24 Hours
Phone: (08) 255 5116

Nexus Education Dept BBS 24 Hous
(NEXUS-BBS)
Phone: (08) 243 2477

Omen V RTRS (OM5-RTRS) 1800-0700
Phone: (08) 45 4666 CST Daily

SA Commodore BBS (SAC64-BBS)
Phone: (08) 382 4631

NORTHERN TERRITORY

Outback RCPM 24 Hours
Phone: (089) 27 7111

Omen II RTRS 24 Hours
Phone: (089) 27 4454

Red Centre RCPM 24 Hours
(REDC-RCPM)
Phone: (075) 32 6340

WESTERN AUSTRALIA

Omen II RTRS 24 Hours
Phone: (09) 279 8555

Perth RMPM 1800-2100 WST
Phone: (09) 367 6068

NEW ZEALAND

Attache RBBS 24 Hours NZT
Phone: 64 9 76 2309+
NOTE: TYPE 'HELP' TO LOG IN

More Bulletin Boards

C-64 Bulletin Boards

Andromeda RAPL 24 Hours
Phone: (02) 764 3598
Sysop: Public

Augur TBBS 24 Hours
Phone: (02) 661 4739
Sysop: Mark James Reg/VA

Balmain RCPM 24 Hours
Phone: (02) 660 8182
Sysop: Reg/VA

Bert 24 Hours
Phone: (02) 211 0855 (1200/75)
Sysop:

BEX II RCDM (19/COSMOS)
Phone: (07) 395 1809
Sysop: Rik Dalley

Bounty 24 Hours
Phone: (02) 918 3256
Sysop: Major Mango

CCUA BBS (C-64) 24 Hours
Phone: (02) 599 7342
Sysop: Public

Hotline 24 Hours
Phone: (07) 353 3718
Sysop:

Illawarra BBS 24 Hours
Phone: (042) 84 4354
Sysop: John Simon

Irata BBS Mon - Fri: 1800 - 0000
Phone: (02) 600 9041 Sat - Sun: 24 Hours
Sysop: Paul Sommers

Omega Line/Bresike Omen 24 Hours
Phone: (02) 457 8281 (300/300 & 1200/75)
Sysop: Geoff Arthur Public

Pursuit BBS 24 Hours
Phone: (02) 522 9507
Sysop: Warren Hillsdon Mem/VA

SMUG BBS 24 Hours
Phone: (02) 607 7584
Sysop: Bob Fryer Reg/VA

Tandy ACCESS RIBM 24 Hours
Phone: (02) 625 8071
Sysop: Reg/VA

Teldata
Direct: (03) 813 3522
01921 300/300
01922 1200/1200
01923 1200/75

Tomorrow Land's DIRECT 24 Hours
Phone: (02) 411 2053
Sysop: John Thwaite Reg/LVA

Video Connection 24 Hours
Phone: (03) 754 4203
Sysop: Robert Kroes
Megabyte (03) 873 1023 After 10.00pm
Harboard (03) 587 2504
Ardvard (03) 723 4739

Zeta Remote TRS-80
system Mon - Fri: 24 Hours
Phone: (02) 627 4177
Sat/Sun: 1900-0700
Sysop: Nick Andrews Reg/VA

64 Bug BBS 24 Hours
PH 645 3406
Club members/Visits
Sysop: Captain Syntax and GEO

Illawarra BBS 24 Hours
PH (042) 84 4354
Free Access
Sysop: John Simon

Palantir BBS 24 Hous
PH 451 6576
Free Access
Sysop: Steve Sharp

Phantoms BBS 24 Hours
PH 399 7716
Free Access
Sysop: The Phantom!

Pursuit 64 BBS 24 Hours
PH 522 9507
Free Access/Reg. Mem
Sysop: W Hillsdon

RCOM BBS 24 Hours
PH 667 1930
Free Access/Reg Mem
Sysop: Simon Finch

Mini-Net BBS 24 Hours
PH (054) 413 013 Free Access
Sysop: Mel Fields Commodore Dealer
(Leave mail for good prices on gear!)

COMMUNICATIONS

UK BULLETIN BOARD SYSTEMS:

General Information:

RING BACK SYSTEMS - These are a fairly new system of operation. For database telephone accesses, you should dial the number, let the phone ring once, then replace the handset. Dial the number again, and on this call the computer will answer. If you allow the phone to keep ringing the first time, the subscriber may answer himself. This system avoids tying up home lines unnecessarily.

Don't forget that you must dial the ISD prefix, ie: 001144 (=UK). Followed by the telephone number WITHOUT the leading 0 of its STD code. Southern BBS therefore becomes 001144 243 511007.

300/300 Full Duplex Bulletin Boards

Southern BBS
Phone: 0243 511007

BABBS II
Phone: 0394 276306

Distel Display Electronics
Phone 01 679 1888

Maptel Commercial Info/Orders
Phone: 0702 552914

Computer Answer Magazine
Phone: 01 631 3076

Basug (Ringback)
Phone: 0742 667983

Micro User (Microweb)
Phone: 061 456 4157

South West
Phone: 0626 890014

CBBS Surrey
Phone: 04862 25174

Just Manchester
Phone: 061 427 1596

Mailbox 80 Liverpool
Phone: 051 428 8924

City BB
Phone: 01 606 4194

Stoke ITEC Remote CP/M
Phone: 0782 265070

TBBS London (Ringback)
Phone: 01 348 9400

DEALER DIRECTORY

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Price: \$42 (inc. postage etc.)
Speed up program loading and saving with TURBO-ROM, available for C64, SX, 128, 1541, 1570/1. Works with 1 or 2 Drives. Vic switch compatible. Does not tie up cartridge socket. Works with printer connected. (Some fast loaders don't).

COCKROACH SOFTWARE,
PO BOX 1154,
SOUTHPORT, 4215.
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A/H (075) 32 4028

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Epyx Disk Alignment Utility		D 45.95
Mercenary		D 36.95
Laser Basic		D 48.95
Winter Games	T 18.50	D 27.95
They sold a Millio	T 32.95	D 36.95
Music Construction Set		D 36.95
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June 28 Macarthur Girls High
9.30am-2.30pm School, Macarthur St
Parramatta

Bankcard/Mastercard

Data Development, 938 1851

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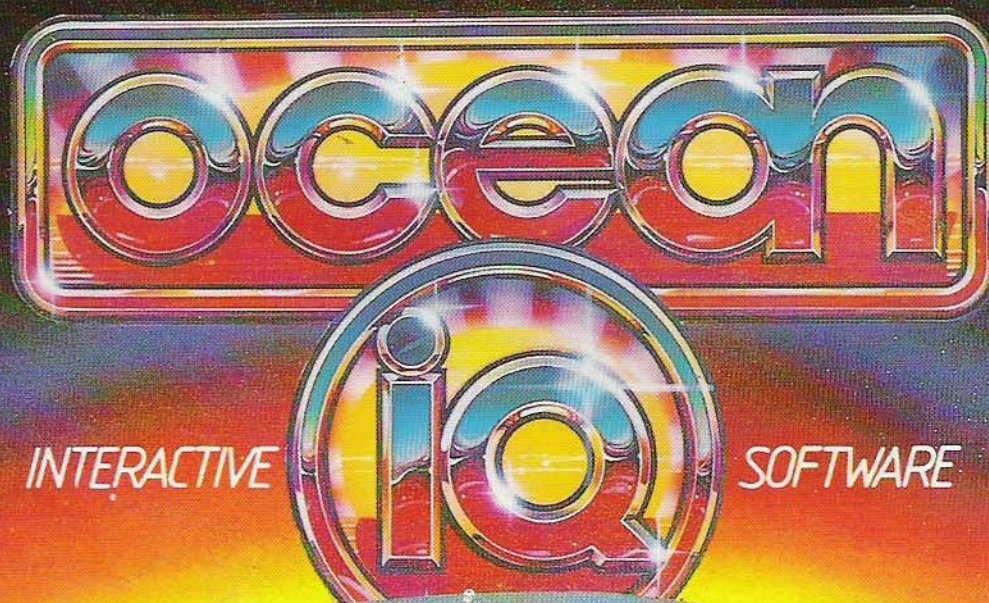
Operates on any disk combination from single 1541 to 20 megabyte hard.

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